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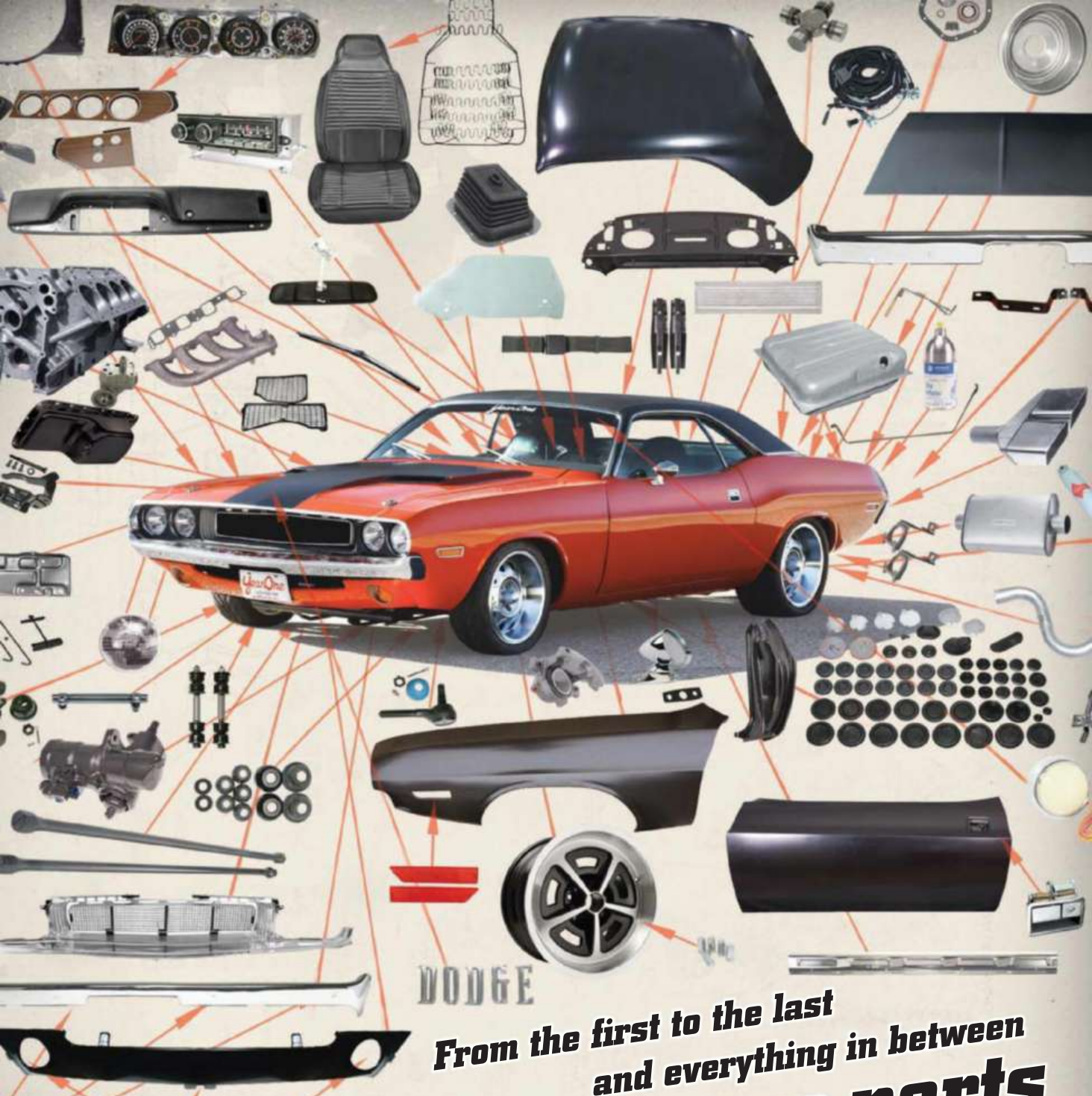


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ON THE COVER

For nearly 40 years, Jim Collins served his country—first in the Army, then the Army Reserve—eventually attaining the rank of Major General. Through it all, he always knew what he wanted, keeping the fire burning in the back of his mind while putting his country first. The modest Collins would never describe himself as a historian, but his knowledge of and passion for Mopars is as deep as it is wide. His tribute to the rare '65 Plymouth Belvedere A990 Race Hemi is not only wonderfully executed, it's driven on the street too! Photo by Jorge Nunez



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EIGHT REASONS 1965 WAS BETTER THAN 2015

Just being honest, but I tend to gravitate toward cars from a specific era—1963 to 1968 in particular. This issue with Jim Collins' '65 Belvedere, Shawn Romig's '64 Polara, and Michael Randall's '65 Chrysler 300 is *prima facie* evidence of that. My earliest memories flicker into focus right around 1965 (I was born in 1963), and by 1968 I can remember specific things in full Technicolor detail. Neil Armstrong stepping off the ladder in July of 1969 seems like yesterday to me.

It got me thinking, and you know how dangerous that can be. In a lot of ways, we were so much better off then. You got up in the morning, got the paper off the stoop, and you sat down with a steaming cup of coffee to read the news—well, our parents did. I walked to school with a metal lunchbox. It was stuffed with a Braunschweiger sandwich, a banana, some celery sticks, and a small bag of Fritos. (I loved the Frito Bandito—long since shunned for being politically incorrect.) I'm sure I forgot a few, but here are eight good reasons why 1965 was better than 2015.

1. American astronauts didn't have to bum a ride to space on a Russian rocket. I don't know what the Federal government is spending my tax money on these days, but this is absolutely nuts. Nothing shouts "look how weak we are!" like riding a 30-year-old Soyuz capsule into orbit. Say *dasvidaniya* to American leadership in technology!

2. We got our news from Walter Cronkite, not that whack-job Bill Maher. Back then, the news was raw fact. It wasn't laced with opinion and it certainly wasn't designed to insult me, my friends, and our lifestyle. Who gave this creepy smartass a microphone anyway? In contrast, guys like Cronkite and Chet Huntley told it like it was and brought us together as a nation, whether it was in triumph or tribulation. And they didn't misremember important stuff—like being shot at.

3. Bad guys wore uniforms, spoke with an accent, and though misguided, at least had a backbone. Where are Idi Amin, Nikita Khrushchev, and Mao Zedong when you need them? Back then, our bad guys looked the part, they had armies all dressed in fatigues, and we could tell who to shoot at. Today, the uniforms are gone, and though we can still tell which guys to shoot at,

we can't, because that's called profiling. We've been trained in the politically correct way to look the other direction, so we crotch-frisk grandma for knitting needles while ignoring the Middle Eastern, long-haired, one-way-ticket-holding underwear bomber with an accent, an expired visa, and a nervous tick.

4. The radio was cool and they played real music on it.

Remember when we were so outraged with disco that we burned piles of vinyl records in Comiskey Park? We had higher standards back then. The lame auto-tuned vomit that masquerades as music now makes Anita Ward's *Ring My Bell* sound like *Foghat Live*. No wonder kids don't want to pay for music—it's no frikin' good.

5. You paid for stuff with cash and they didn't ask a bunch of personal questions at the register. It's no longer good enough to just pay money for goods, then leave, they want your whole life history. *Birthdate. Last name. Zip code. Last four digits of your phone number, sir.* What, are you writing my biography? You know where you can shove your rewards card.

6. Americans built stuff for Americans, and it lasted. Let me put it this way: In another 50 years, do you think a billion-dollar industry will revolve around the restoration of 2015 Hyundai Elantras? Do you think people will plan their vacations around going to a swap meet a thousand miles away so they can find a taillight for a Toyota Corolla? Today's cars are disposable junk, but it's not just about life expectancy, it's about having something cool and authentic that aesthetically withstands the test of time. Nobody does that like 'merica. Exhibit A: 2015 Hellcat.

7. Kids weren't so spoiled. Back in the day, we washed dishes, dug ditches, and mowed lawns—stuff that's too icky for today's teens. As young adults, manual labor was the way we learned the value of a dollar. By the age of 18, we already knew if we could hack it in the blue-collar world, and if we couldn't, we knew our future depended on doing well in school. Today, we shower our delicate peanut-allergic kids with a steady gusher of computers, iPhones, and video games while cocooning them in unrealistic praise. The other day, I heard a news story about a kid with PTSD from Facebook bullying. *Really?* That's an insult to veterans everywhere. And we're surprised when teens can't find jobs.

8. Government didn't make it their business to tell us how to live—they made it possible to do anything. Let's face it, one of the reasons evolution works so well is that idiots will always be idiots; protecting them from themselves and from one another only short-circuits the course of nature. And please stop telling me what gun I can buy, what motor I can put in my hot rod, how high I can lift my truck, what type of insurance to get, how large my fountain drink can be, how much I can water my lawn, what light bulb to buy, how many miles I can drive my classic car, and what flag I can fly!



Bonus shot of Michael Randall's blown big-block '65 Chrysler 300—proving yet again why 1965 was such a banner year, not to mention reminding us why it's so important that states like Utah continue to survive unscathed.

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Rust damage around windshields and back windows is a fairly common occurrence. Fortunately, a repair patch can easily be built from scratch.

found at Muscle Car Restorations in Chippewa Falls, Wisconsin. MCR is relying heavily on AMD to provide the needed body panels, but there are a couple of small areas around the windshield frame where the best solution is to make your own repair patch.

This kind of repair is actually quite common on many restorations so this is a valuable skill to acquire. We chose this area around the windshield frame because of its compound curves and because it's a common problem area. Compound curves generally require the repair patch to be either stretched or shrunk and this one needs both.

One good thing about making your own patches is that this is one of those times that if you make a mistake there's no harm done. You just throw it away and start over. So there is little to lose and lots to gain. Go for it. You'll probably surprise yourself! 📺



TEXT AND PHOTOS:
MARK EHLEN

CHANGING CHANNELS

RUST IN YOUR WINDSHIELD CHANNEL IS ONE OF THE WORST KINDS OF DAMAGE, BUT IT DOESN'T HAVE TO SPELL THE END IF IT'S FIXED RIGHT.



Starting with the shrinker jaws like this set from Eastwood, begin to pull the part into a radius that matches the curve of the damaged area. The tighter the radius, the closer the shrink points should be on the metal. In this case MCR was only moving the metal about a quarter inch through the jaws at a time.

You know, it wasn't all that long ago that replacement sheetmetal for your classic Mopar was pretty limited. Thankfully, companies like Auto Metal

Direct have stepped up in a big way to provide an ever-increasing number of the parts you need to complete the car of your dreams.

Still, not every piece of sheetmetal is available for every Mopar, as some parts are just not practical to reproduce. And sometimes just a small area needs repair and you'd rather not have to replace the whole panel. Such is the case with a '72 Road Runner that we



We're going to start with a piece of 18-gauge cold-rolled sheetmetal bent into a 90-degree angle.



Check your work frequently as you go. You want to get to the correct shape with as few "shrinks" as possible to avoid work hardening the part, which could cause it to crack. As you can see, we're not quite there yet but getting really close.

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Once the correct inside radius is achieved, now the top of the part can be stretched to form the downward radius from the roof to the A-pillar. Switching from shrinking to stretching is simply a matter of changing the jaws in the tool, making it a stretching machine.



Stretching (or shrinking) a curved area will naturally produce flat spots that will need to be tapped back into shape with a curve-faced hammer.



At this point you can remove the damaged area using a cutoff wheel being careful to leave all of the roof area intact.



In this case, some spot welds also need to be drilled.

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With the new piece trimmed to length and clamped in place, the shape of the roof contour can be drawn on the upper section to provide a guide for grinding the part so that it just fits under the roof edge.



Before the new part is welded in place, MCR insists on applying some SEM Copperweld weld-through primer to prevent rust.



A little additional hammer work may be needed to get the part to fit perfectly after it's been tacked in place.



Even though an area like this is fairly resistant to heat warping, do not attempt to run even a short weld bead. Instead, keep tack-welding in between the tack welds until you have filled in all the gaps. Then, grind the weld smooth, avoiding the original roof metal as that can get thin very quick.



All that remains is to replace the spot welds and the repair is complete.

SOURCES

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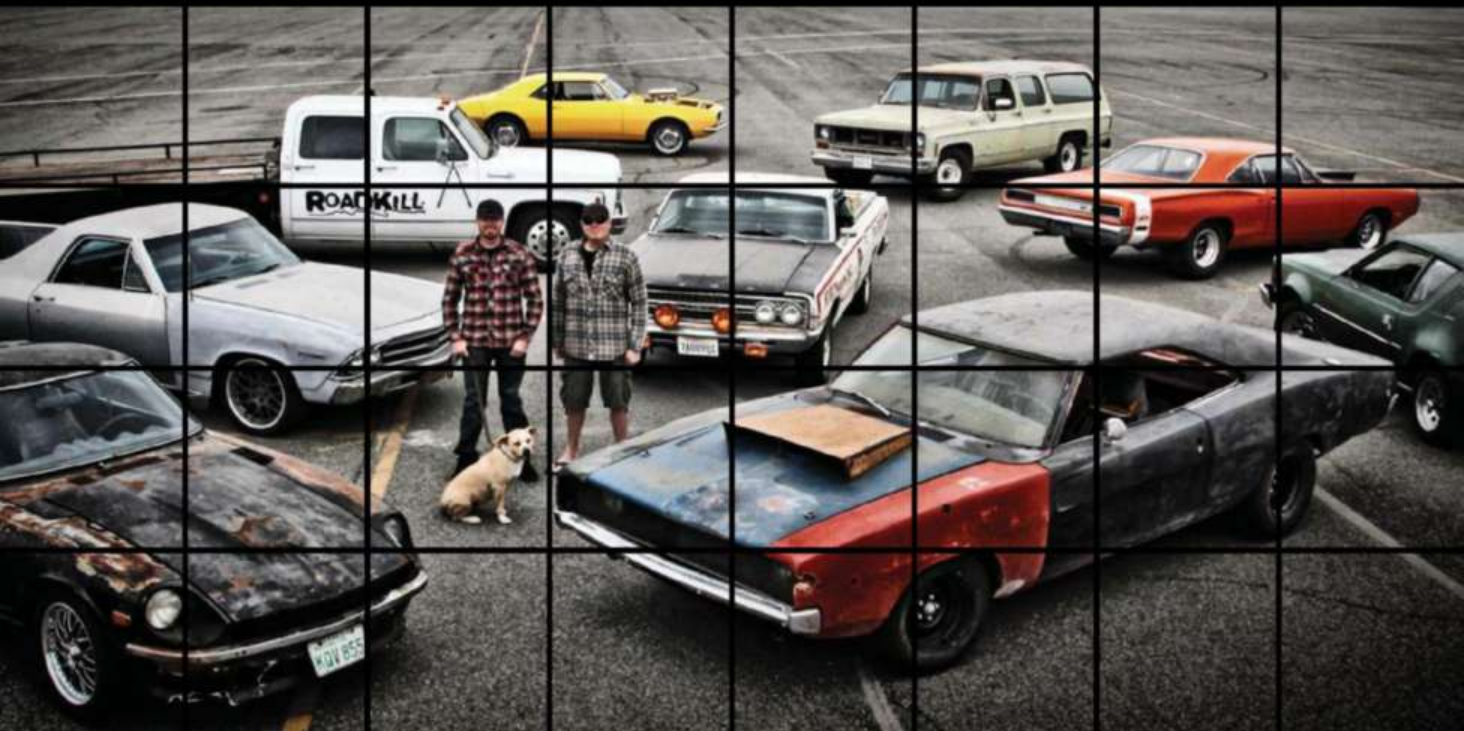
In case you don't have an extra \$1,000 to purchase a pro-level foot operated shrinker/stretcher, the guys at Muscle Car Restorations say the ones that you can get from Eastwood for \$200 will work just fine for up to 20-gauge sheetmetal.

Harbor Freight has a handheld manual spot welder for about \$200 that will do a fine job with the metal thicknesses you'll encounter with this type of work. It's totally manual with no power adjustment so you better practice a bit before you commit to anything important, but it will produce a factory weld once you become proficient.



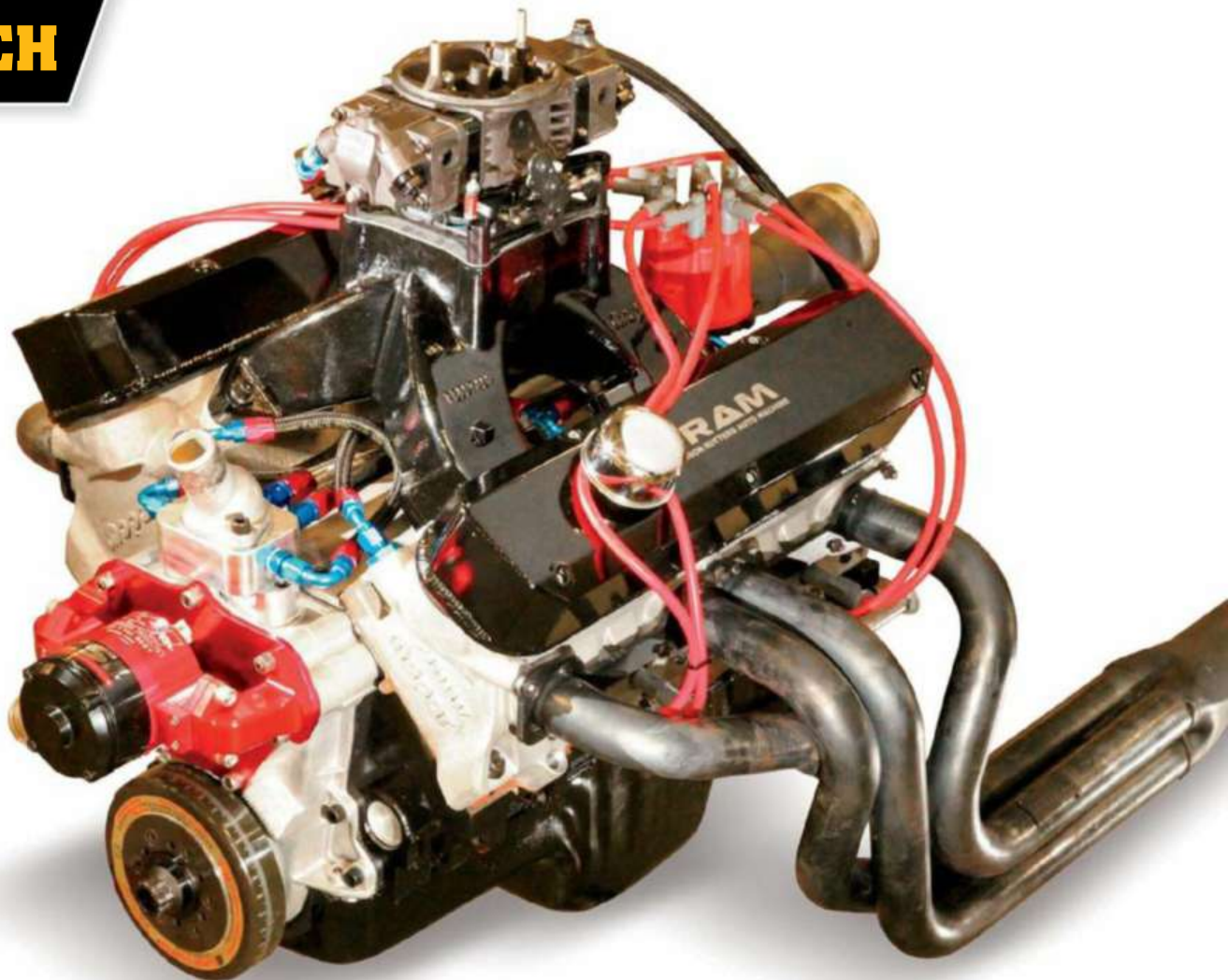
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IDENTITY CRISIS

THIS STREET SMALL-BLOCK PACKS BIG-BLOCK CUBES AND DELIVERS RACE ENGINE POWER.

BY STEVE DULCICH • PHOTOGRAPHY BY JOHNNY HUNKINS

What do you do when you notice a retailer is having a fire sale on limited production racing parts? If you have the spare change, you step up to the plate and buy just to take advantage of the deal and put it in stock. That's just what a customer of Jesse Robinson's SKMFX Engines did when he spied an R3 Mopar Performance block on offer for \$750. Mopar's R3 was a seriously beefed race piece, offered in a vast array of configurations based upon the production LA engine architecture. This particular block, produced with the larger 360-sized main bearings, two-bolt main caps, a 59-degree lifter bank angle, and featuring non-Siamese bores, is one of the less desirable examples of the breed. Be that as it may, like all R3

blocks the strength is there to handle massive amounts of power reliably.

This block sat around for several years until Jesse was contacted with the aim of building a very high-output street small-block for use in an A-Body Barracuda. Starting with an R-block, it doesn't make sense to shoot for the typical street power range of 400-500 hp. You can do that with any stock production block. The plan began to gel with the idea of packing the block with as many cubic inches as practical, topping it with a head and

induction system that really moves the air and makes serious horsepower. That build concept happened to fit well with the annual AMSOIL Engine Masters Challenge. Since Jesse has been a long-time competitor in that event, the decision was made to build the engine to legal specs for that competition, run it at Engine Masters, and then drop it home in the Barracuda.

BOTTOM END BUILDING

Jesse sonic tested the block and found a 4.040-inch bore would leave enough

"Starting with an R-block, it doesn't make sense to shoot for the typical street power range of 400-500 hp."



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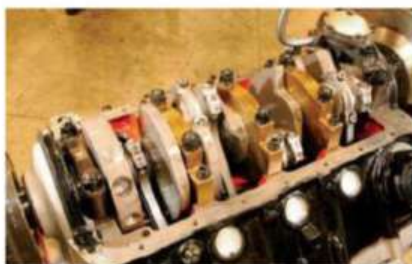
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cylinder for a couple of future freshen-ups while maintaining good wall thickness. With that limitation to bore size, any plan for big cubic inches would have to come from the crankshaft. While 4.00-inch stroker cranks are the common upgrade for Mopar small-blocks, Jesse opted to go considerably further, with a 4.25-inch stroke crankshaft from BPE. The 4.040-inch bore combined with a 4.250-inch stroke would take the small-block's displacement to a sizable 436 cubes. The block was prepped with the usual high level of attention we have come to expect



Although Jesse Robinson of SKMFX Engines started with a Mopar R block, the cylinders in this non-Siamese version were finish machined to 4.040 inches, a bore no larger than a production 340. The huge increase in displacement came via a 4.25-inch stroke crank from BPE.



The R3 block was available with four-bolt mains, but this particular variation came through with a two-bolt arrangement. To add beef, the block was modified to accept Milodon splayed four-bolt caps.



Teaming up with the crank to complete the internal assembly were a set of Scat I-beam rods, featuring small Chevy specs of 2.00 inches at the big end and 0.927 inch at the piston pin. The pistons are custom Diamond pieces, using a spherical dish shape for a compression ratio of just under 11.5:1. Rings are from Total Seal in a 0.043/0.043/3mm pack. Note the lateral gas ports and coated crown and skirt.

from the professionals at SKMFX, including a detailing of the oil passages, general cleanup of the casting flash, and then the final bore, hone, and decking. The two-bolt center main caps were replaced with a set of Milodon ductile iron splayed four-bolt caps. With the fully filled pan rails of the R-block, there is plenty of meat for the additional main cap fasteners to bite into.

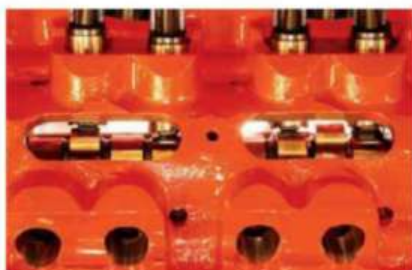
Along with the big increase in stroke, the BPE crankshaft came with the small 2.00-inch small-block Chevy-spec rod journals, which provide a broad rod selection and decreases bearing speed. The compact big end improves the inherently tight crankcase clearance of the long stroke. Scat 6.200-inch rods hang from the journals, and only a small clearance



Even with the very long stroke, the crankcase clearance was a minor issue due to the small 2.00-inch journal and compact cap screw rods. A modest notch at the bottom of the bores was all that was required to make it fit.



A stock 360 truck pan holds the AMSOIL 10w30 synthetic lube. Like the block, the inside of the pan is painted with electric motor winding varnish for a smooth, slick, sealed surface.



Working the valves is a custom COMP hydraulic roller cam, cut with 250/252 degrees duration at 0.050 and a 108-degree lobe separation angle. The cam was installed at 104 degrees intake centerline, and runs with Johnson limited-travel hydraulic roller lifters.

notch at the bottom of each cylinder was required to make it all fit with clearance to spare.

Filling the bores is a really trick set of Diamond custom pistons, featuring a full spherical dish for a compression ratio of 11.43:1. The pistons are cut for 0.043-inch compression rings, with lateral gas ports, and 0.927-inch Chevy-spec pins to work with the small end of the Chevy application Scat rods. The pistons received Diamond's optional thermal barrier crown coating and antifriction skirt coating, as well as their CNC lightening treatment. To seal the pistons to the bores, Jesse went to Total Seal for the ring package. Even with the very long stroke and the longer-than-stock rod, the



Mopar W9 cylinder heads top the short-block. These started as bare unfinished castings. Large 2.190-inch valves fill the chamber to the limit.



The Mopar W9 heads essentially have no ports as delivered, and were sent to Bret Miller to have the ports CNC machined into the castings. Bret has several variations of port programs developed for these heads. These intake ports were finished by SKMFX and flow over 360 cfm.

"...the torque numbers would make a big-block proud: 495 lb-ft right at the hit, rising to a staggering 629 lb-ft at a peak torque rpm of 4,800 – 4,900."

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compression height worked out to a reasonable 1.275 inches. The 3mm oil ring easily fit without protruding into the piston pin bore.

Lubrication is provided by a standard Melling oil pump, while a stock truck oil pan runs without a windage tray and seals the bottom end. Of course, the truck pan will not fit the '68 Barracuda chassis, but the deep sump and short, direct, pickup tube were well suited to the AMSOIL Engine Masters Challenge. All in all, despite the very long stroke and the race-style parts, as Jesse put it, "The short-block was very straightforward; it came together very nicely."

HEADS YOU WIN

Moving up to the top half of the engine combination, Jesse was looking for serious hardware capable of moving a great deal of air. The heads selected are truly race derived—Mopar's P4532847 W9 castings. These castings were sold in almost a dozen part numbers over the years through Mopar, with differing CNC machining targeting particular applications. The castings Jesse acquired were bare and un-machined, requiring full CNC work to create the ports, and then the details like installing seats, guides, and even the intake bolt holes. Prepping a set of bare casting like this is a daunting



The T&D shaft-mounted rocker system is the last word in stability. The rocker ratio is 1.75/1.70:1, giving 0.735-inch lift at the valve.



It doesn't get much better in single-plane intake manifold design than the Mopar No. 420 race intake. Other than a deep port match, very little custom porting work was required with this manifold.

"The 4.040-inch bore combined with a 4.250-inch stroke would take the small-block's displacement to a sizable 436 cubes."

task. In contrast to his comments on the top end, Jesse told us, "We can talk for days about the top end. These heads came as pretty much a blank slate, and involve considerable custom machine work to get them to a usable form. With all the work and time involved, plus the specific valve-train, the W9s are extremely pricey to run."

Jesse started by having former Engine Masters competitor and Mopar head specialist Brett Miller CNC a set of ports. Brett has several CNC programs for cutting ports into the bare W9 castings, and for this application Jesse went with the smallest port Brett had available. The fully equipped SKMFX shop then proceeded with the seat and guide installation, hand-finishing the ports, and adding the required boltholes for the intake manifold. All said, the work paid off, with airflow topping the 360 cfm mark on the intake side, and 248 cfm through the exhaust, breathing through custom 2.19-/1.60-inch valves.



With the production 9.560-inch-deck block and the raised port location of the W9 heads, spacers were required to fit the intake manifold. Note the bungs for coolant return tapped into the cylinder heads. The W9 does not have the production style coolant return provisions at the front of the heads.



A Holley 950 Ultra HP carb delivers the air and fuel. This carb was run in essentially box-stock configuration, with only tuning calibration changes required.

Another aspect of running these race-style cylinder heads is the plumbing for coolant return. Absent here are the standard water return ports at the front of the cylinder heads, which lead to the thermostat housing in a normal small-block Chrysler. In fact, the No. 420 intake manifold does not even have these provisions. The solution is a series of three coolant return lines plumbed directly from the heads—front, center, and rear, for a total



Beneath the intake manifold, we can see the external coolant lines which route coolant from the front, center, and rear of each head. The -6 lines fit in the space below the installed manifold. Note the custom valley tray that seals the top of the block.



The coolant lines are routed to a custom-built thermostat housing mounted to the front cover of the engine. Retrieving coolant from the full length of the head, the system results in a more uniform temperature gradient.

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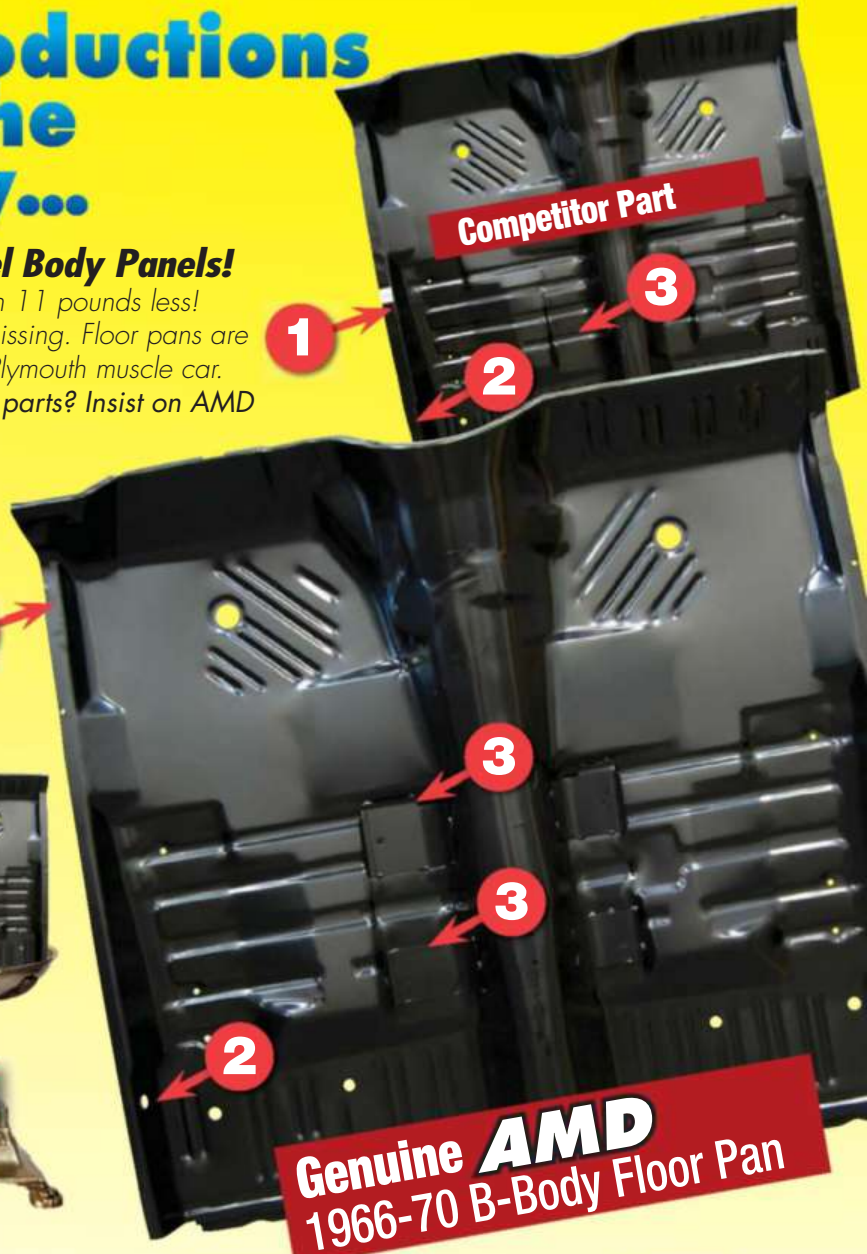
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of six lines. These were routed to a custom thermostat housing arrangement mounted to the top of the front cover. An electric CSR water pump mounts in the stock locations to circulate the cooling fluid. Jesse evaluated the novel cooling system very carefully when the engine was run in testing, "I tracked and monitored the temperature across the heads throughout testing, and it proved to be very even all the way across."

Working in tandem with the cylinder heads is a Mopar No. 420 race single-plane intake manifold. These manifolds are highly regarded in the Mopar race small-block world, and, in fact, are often adapted to Chevrolet small-blocks in certain race applications. As Jesse pointed out, "This manifold is extremely well designed, with a very nice plenum and entry into runners, and a great runner form right to the intake ports of the heads." Topping the intake is a Holley 950 Ultra HP in Hardcore Grey finish. The carb required nothing more than basic tuning.

A hydraulic roller camshaft was selected both because of its longevity in a street application, and to conform to the requirements of the AMSOIL Engine Masters Challenge rules. The custom COMP Cams grind measures 250/252 degrees duration at 0.050-inch tappet rise, is



At the front of the engine we find a CSR electric water pump fitted to the production LA-series small-block front cover. The crankshaft damper is from ATI, known by racers and engine builders alike as one of the best in the industry.

ground on a 108-degree lobe separation angle, and was installed at a 104-degree intake centerline. The cam was in fact a take-out from one of Jesse's previous Engine Masters Challenge competition engines, and has been proven an effective performer. Working in conjunction with T&D's W9-specific shaft-mounted 1.75/1.7 ratio rocker system, lift at the valve works out to a hefty 0.735 inch.

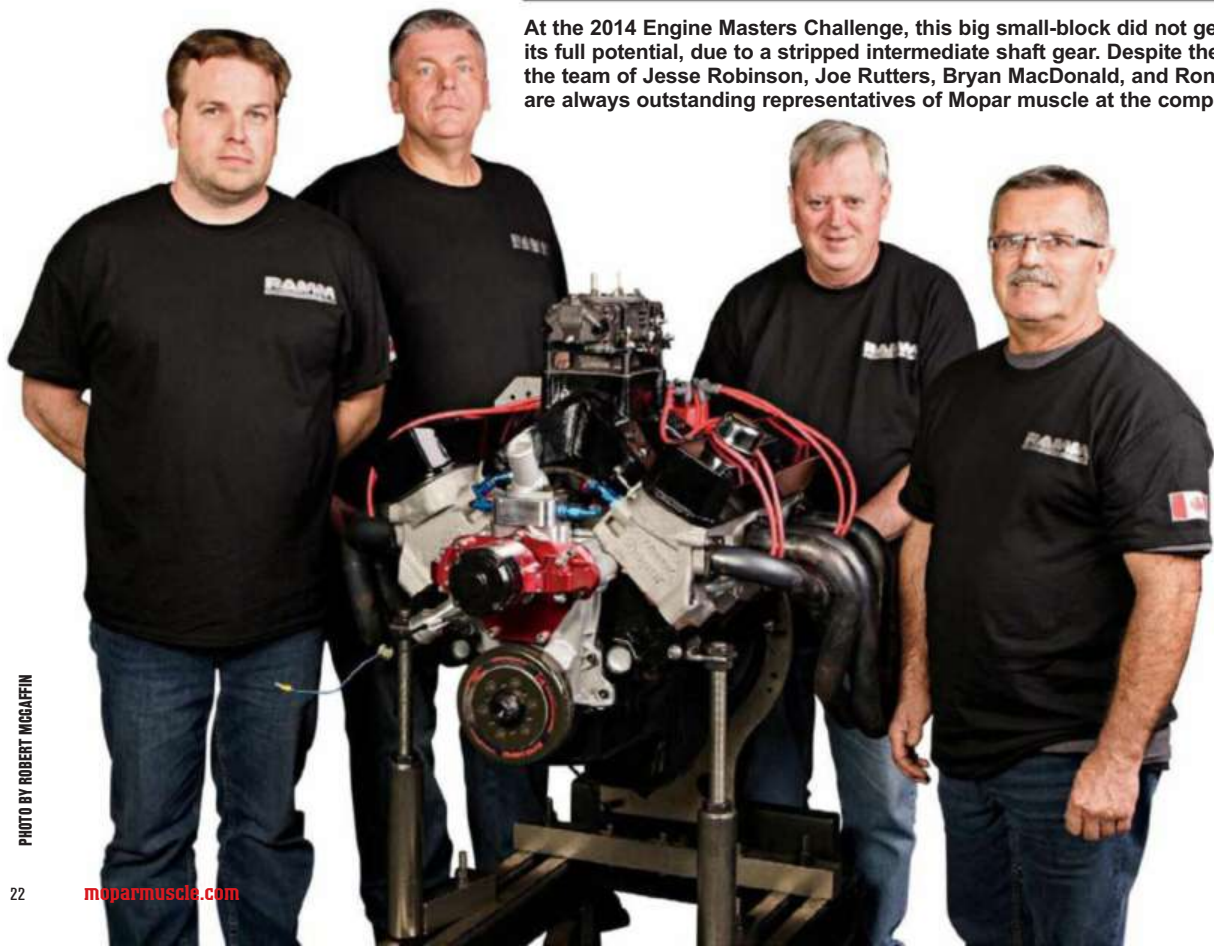


Handling the spent gases is a set of sprint car-style Schoenfeld 1 7/8-inch headers. The header flanges and bolt pattern of the W9 head is unique, and does not interchange with any production small-block Mopar cylinder head.

With that amount of valve lift, a very good valvetrain is required to maintain stability. The T&D rockers meet this requirement, and the limited-travel Johnson lifters and COMP 3/8-inch pushrods complete the package.

Jesse elaborated on the valvetrain specifics: "I bolted my parts on and it worked great. I used a PAC spring with 220 on the seat and 575 open. It was a nice spring with the micro polishing and titanium retainers and PAC locks. It was all nice stuff. I don't get too worried about the valvetrain when there are shaft rockers involved and the T&D parts are among the best. I really think there is a lot of performance to be had with an effective valvetrain. The other key component is the

At the 2014 Engine Masters Challenge, this big small-block did not get to show its full potential, due to a stripped intermediate shaft gear. Despite the problem, the team of Jesse Robinson, Joe Rutters, Bryan MacDonald, and Ron Maclean are always outstanding representatives of Mopar muscle at the competition.





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FAST FACTS

436CI CHRYSLER SMALL-BLOCK

BUILDER:	Jesse Robinson/SKMFX
BORE:	4.040-inch
STROKE:	4.250-inch
DISPLACEMENT:	436 ci
COMPRESSION RATIO:	11.43:1
CAMSHAFT:	COMP custom hydraulic roller
VALVE LIFT:	0.735-inch
DURATION:	250/252 degrees at 0.050 inch
LOBE SEPARATION ANGLE:	108 degrees
INTAKE INSTALLED CENTERLINE:	104 degrees
ROCKER & RATIO:	1.75/1.7
LIFTERS:	Johnson limited-travel hydraulic roller
PUSHROD:	COMP 3/8-inch dia.
PISTONS:	custom Diamond
RINGS:	Total Seal 0.043/0.043/3mm
BLOCK:	Mopar R3
CRANKSHAFT:	BPE
RODS:	Scat 6.200-inch
MAIN JOURNAL DIAMETER:	2.50-inch
ROD JOURNAL DIAMETER:	2.00-inch
BEARINGS:	MAHLE/Clevite
CYLINDER HEAD:	Mopar W9
INTAKE PORT FLOW:	363 cfm
EXHAUST PORT FLOW:	248 cfm
INTAKE VALVE DIAMETER:	2.19-inch
EXHAUST VALVE DIAMETER:	1.600-inch
HEAD GASKET:	Cometic MLS
INTAKE MANIFOLD:	Mopar No. 420
CARBURETOR:	Holley 950 Ultra HP
HEADER:	Schoenfeld 1 7/8 inch
IGNITION:	MSD
DAMPER:	ATI
WATER PUMP:	CSR electric
OIL PAN:	stock truck
OIL PUMP:	Melling standard volume
FUEL:	VP 101 unleaded
MOTOR OIL:	AMSOIL 10w-30

ON THE DYNOMETER 436CI CHRYSLER

RPM:	TQ:	HP:
3,100	497	293
3,200	496	302
3,300	495	311
3,400	492	318
3,500	476	317
3,600	466	320
3,700	462	326
3,800	460	333
3,900	462	343
4,000	472	359
4,100	496	387
4,200	539	431
4,300	581	476
4,400	608	509
4,500	619	531
4,600	625	547
4,700	628	562
4,800	629	575
4,900	629	587
5,000	628	598
5,100	625	607
5,200	621	615
5,300	618	623
5,400	614	631
5,500	609	638
5,600	604	644
5,700	598	649
5,800	592	654
5,900	584	657
6,000	578	660
6,100	569	661
6,200	561	662
6,300	553	664
6,400	544	663
6,500	533	660

that bargain priced R3 block when he bought it, but Jesse definitely had some worthwhile suggestions! 



Dyno testing showed this street combination of race-style parts delivers the goods, with an incredible 629 lb-ft of peak torque showing at 4,800-4,900 rpm, and a peak output of 664 hp at 6,300 rpm. That is truly big-block power from a small-block package.

lifters. I like how Johnson does their limited-travel lifters. They machine a ring in a precision thickness that goes between the snap ring and plunger body that compresses it to within 0.009 to 0.010 from the bottom of the travel. They have always worked well for me."

DYNO TIME

Would all the race-style hardware deliver on the promise of race level power in a street package? The dyno would tell the story here, and this big-inch small-block proved its worth. Testing in a range from 3,100-6,500 rpm, the torque numbers would make a big-block proud: 495 lb-ft right at the hit, rising to a staggering 629 lb-ft at a peak torque rpm of 4,800-4,900. That's not just big-block territory, that's 500-inch stroker big-block torque. Naturally, the horsepower side of the ledger will follow torque, and again this 436-cube combo delivered the goods, showing 664 hp coming in at a street-friendly 6,300 rpm. The beauty here is this high-powered small-block will slip into that '68 Barracuda as easily as a stock 318, but the punch will make it clear this is no ordinary small-block. Jesse's customer really didn't know what he was going to do with

SOURCES

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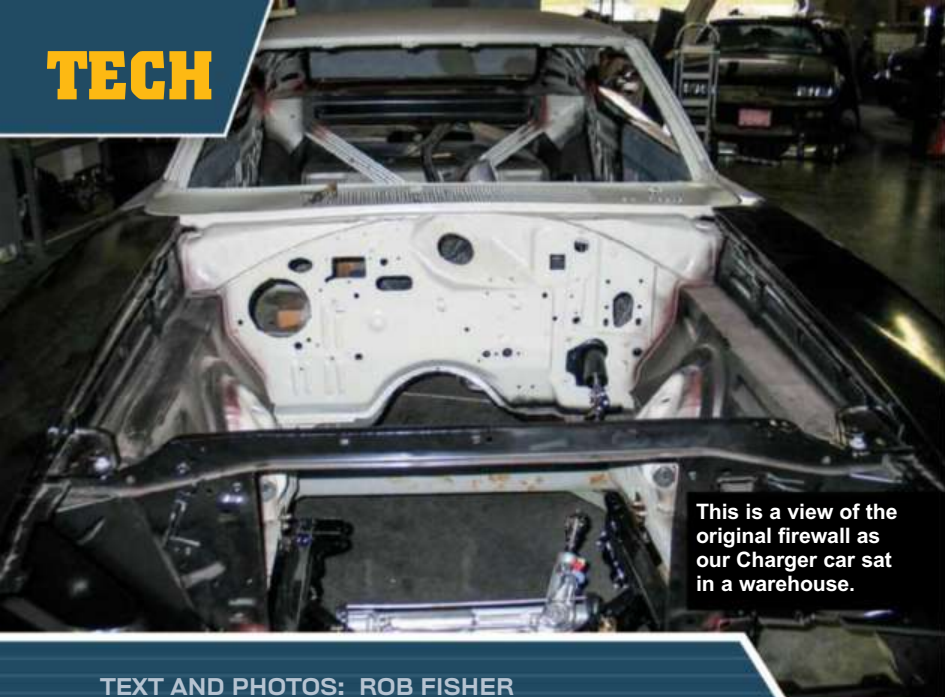
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This is a view of the original firewall as our Charger car sat in a warehouse.



The square cut out in the center has had a 2 1/2-inch slice made through the firewall off of one of the corners. We're not sure why it was there but it looked goofy and was reason enough to fix the firewall.



Then there's this: In the center of the shot you can see what looks like a patch with a square hole cut out of it in a rudimentary fashion.



With the motor in the car, you can see how tight the fit is against the back of the intake to the firewall. One item that is problematic is the wiper motor. We decided to take some liberties and hide the wiper motor, but that will happen later.

were already on the car when Koops originally acquired it. At the time, the decision was made to smooth the firewall for a clean look. We would also attempt to carry that smooth look around much of the rest of the engine bay. We weren't going to go completely smooth everywhere, but wanted a nice seamless look. Once Ken and his guys got a hold of our Charger they made the recommendation that we cut the firewall out and replace it with all new sheetmetal. This approach would be far less time consuming, and it would look just as good as the alternative without comprising the structural integrity of the vehicle. In our case, this is especially true since the car has a complete '66-70

TEXT AND PHOTOS: ROB FISHER

SMOOTH OPERATOR

A PRO BODY SHOP SHOWS US HOW TO BUILD A SMOOTH SHOW-WINNING FIREWALL FOR A '69 CHARGER.

Looking down into the empty engine bay of a 1969 Charger, most people would think "good grief, you've got a ton of room in there." After all, it is cavernous and we've seen Viper V-10s and even a Cummins shoehorned into a B-Body engine bay. So fitting the new 6.4 Hemi crate motor from our friends at Roseville Moparts should be a piece of cake. Our motor will sit on an Alterkition front coilover suspension from Reilly Motorsports, which gives the engine a real nice setback. And while there is enough clearance between the stock firewall and the back of the motor, it does come close. In that snugness we saw an opportunity.

As a bit of a refresher, remember that our project Charger was originally a 318 car with an automatic transmission and A/C—that much we deciphered from the VIN. We're not real clear on the history of the car other than it was saved from a crusher in Plant City, Florida, about 15 years ago and sat idle in a guy's shop for

a good chunk of time before being bought by our friend Matt Koops. Koops was in the middle of multiple Mopar restorations so we did him the favor of liberating the car. When we bought the thing, all we got was a shell with a dashboard, the glass, and a clean title. We were pretty much starting from scratch and since this was not a numbers-matching car and we didn't have any of the original suspension, motor, or trans, we decided to get a little creative with the build, especially the metal fabrication work.

Enter the guys at The Finer Details, the Mopar-centric restoration shop owned by Ken Mosier in Danville, Indiana. You met Ken's guy Scott Dowdy in a recent story when he went to work on forming the transmission tunnel for our six-speed Tremec. Well Scott is back and he's set to smooth out our firewall—at least that was the original idea. An analysis of the firewall before the car ever made its trip north to Ken's shop showed two areas where it had been altered from the stock configuration. These were defects that

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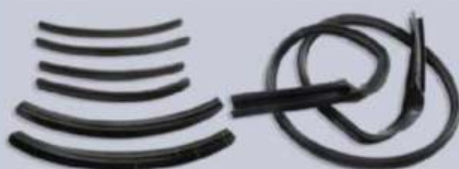


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With the intake removed you can get a better view of exactly how close the motor is to the firewall.



As part of the firewall restoration the decision was made to replace the original cowl. It had a whole series of ripples running across it and using body filler to fix the problem wasn't the best approach, so Dowdy cut out the old metal.



He replaced it with all new steel, thanks in part to our friends at Auto Metal Direct who hooked us up with a new cowl.

B-Body Total Chassis Stiffening Pack from US Car Tool. That kit includes CNC machine cut frame connectors, a complete set of front and rear torque boxes, inner fender braces, and a lower core support frame brace.

We agreed with Mosier's assessment and Dowdy proceeded to cut the original firewall out using a heavy-duty cutoff tool. He then welded a sheet of 18-gauge sheet steel in its place. The metal came from AED Motorsport Products, a metals distributor located in Indianapolis. Once the new firewall was securely in place, Dowdy smoothed it out using a combination of three different fillers. This is a critical step in the whole painting process, more of which you'll see in the future.

Dowdy starts the process by using Evercoat's Everglass to fill the high spots and large imperfections; it's a short-strand, fiberglass-reinforced body filler. It is high strength, high build, and waterproof, which makes it an excellent first step in the process. Next comes USC's Feather-Rite lightweight body repair filler. Designed to be easy to apply and sand, the smooth, creamy formula is virtually pinhole-free, making it perfect for blending areas together. Finally he wraps it up with Evercoat's Metal Glaze for the finish work to leave a perfectly smooth surface. With the firewall and engine bay smoothed out, the next step is to align the body panels before beginning the process of the priming and sanding. 📺



Dowdy cut out the old firewall using a one-two punch of a heavy duty cut-off tool with a 3x3/32 cutoff wheel and an air saw with a metal cutting blade. In this picture you'll also see 1x1 square tubing welded in place to give the car some rigidity during transport.



Dowdy created a cardboard template to ensure that he had a perfect fit for the new firewall. The bends in the template will get transferred to the steel sheet.



Test-fitting the cutout sheet steel is a key step before securing into place. Dowdy used rivets to temporarily hold it in place. This is when you should make any last-minute trims and cuts to ensure a perfect fit.



With the welding done, the firewall is ready to be scuffed, filled, and sanded to a smooth finish. They follow two lines on the inner fenders, the top bend follows the ledge on the inner fender while the bottom bend follows another line in the inner fender.

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In this shot, you can see the bottom bend's line a little better.



Dowdy scuffed the raw sheetmetal using sandpaper to promote good adhesion for the next step.



Dowdy's first step is to fill the low spots with Evercoat's Everglass. Next comes USC's Feather-Rite lightweight body repair filler. The smooth, creamy formula is easy to apply and sand, plus it is tack-free, clog-free, and virtually pinhole-free, making it perfect for blending areas together. Finally, he wraps it up with Evercoat's Metal Glaze (shown) for the finish work to leave a perfectly smooth surface.



As you might guess, there is a lot of sanding involved in a process such as this, even though we started with brand new bare sheet metal. Dowdy starts sanding the body filler with 40-grit paper on a round hand sander.



He then moves to a sanding block with 80-grit paper.



And finally he finishes it off with 150-grit, also with a sanding block.



Dowdy also took the time to hide all of the spot welds in the engine bay, which will make a seamless and smooth finish.



Just about as smooth as a sheet of ice, at this stage our new firewall is nearly ready for primer.

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TEXT AND PHOTOS: DAN FOLEY

PROJECT SLICK CHALLENGER: REAR SUSPENSION REHAB

IMPROVE THE RIDE, BITE, AND HANDLING OF YOUR E-BODY WHILE MAINTAINING A STOCK, CLEAN LOOK TO THE REAR.

Back in the '70s, most gearheads took pride in the appearance of the rear undercarriage of their muscle cars. Because many were jacked up in the rear, the goal was a clean, cool look for those following you. Some sported the stupid long shackles and bright colors, while the cool guys would keep it black with white air shocks. Traction bars (ladder or slapper) were also an accepted look—as long as it looked clean. The in-the-know Moparite used the infamous pinion snubber that was hidden from the view of the competition. My first car at 17 years of age was a two-door '65 Belvedere I. The first thing I did was paint the 8 3/4 rear semigloss black and get white air shocks to lift up the rear end for 60-series rubber.

Our project Challenger has that period look with deep-dish 14x8 Cragar SST wheels and 60-series rear tires. Like yesteryear, our first desire was to ditch those ugly long shackles and yellow air shocks. Also, the original saggy leaf springs couldn't handle the torque of the recently implanted 416 LA stroker without serious wheelhop issues. We employed an old pinion snubber to cure the wheelhop, but it needed to rest against the floorpan and didn't allow sufficient suspension travel. The antiquated air shocks needed over 50 psi for adequate tire clearance and that right-looking rake (1 to 2 inches higher in the rear), but returned a poor ride and road holding. Past experience told us beefier leaf springs and QA1 shocks would bring the ride and handling into the 21st century.

We ordered custom Hemi-style leaf springs from Performance Suspension Technology (PST), with an added arc of 2 inches for that period-correct stance. A set of QA1 single-adjustable shocks would be put in service to match the QA1 tubular K-member front suspension [from a previous story. After researching shackles, we decided on a heavy-duty set from Hotchkis Performance to rid our E-Body of those hideous long ones. Once the rear and related parts were rolled out and out of the way, there was plenty of access room to apply Eastwood restoration supplies to the undercarriage and suspension components. The quality Eastwood products will help maintain that clean look to the rear for a long time.

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After lowering the car to full rest, we did the hands-down test to check for suspension movement and noise. The new suspension felt stiffer, but demonstrated proper movement at all the pivot points (shackles, shocks, and hangers). At first our car sat a little high, but settled down an inch in a week for the stance we wanted. Our first drive showed us the mushy rear suspension was a thing of the past. The ride was firmer without being harsh, but more importantly we improved the road holding and cornering agility. We initially set the QA1s on zero clicks but moved to three clicks for a comfortable ride that has better handling than most stock-suspension muscle cars. We look forward to the Slick Challenger showing the competition its beautiful rearend! 🇺🇸



The dirty, grimy 8 3/4 rearend with its tired, original leaf springs were unbolted and rolled out from under the Slick Challenger. Be sure the car is raised high enough for tire clearance to roll out the rearend assembly. This procedure eased access to unbolt the leaf springs and upper shock bolts, while aiding in the restoration of the axle and undercarriage.

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We used a friend's sandblasting cabinet to clean up the shock plates, spring hangers, and sway bar brackets. First, a light coat of Eastwood's Rust Encapsulator (PN 16060Z, \$19.99) was applied, then a couple coats of 2K Aero-Spray Chassis Black (PN 14146Z, \$24.99) for long-term durability from dreaded rust.



Back in the home garage, a bench-top wire wheel was used to remove rust and paint from the original U-bolts and sway bar endlinks. Eastwood's Diamond Clear Satin (PN 10300Z, \$12.99) will protect the U-bolts while the Zinc Phosphate (PN 10281Z, \$14.99) will give the endlinks that stock black oxide look. We replaced the rubber endlink bushings with black polyurethane units (PN 9.8103G, \$6.97 each, pack of two) from Energy Suspension. Minor trimming of the bushings was required.



We were glad to rid this car of the long shackles (*right*) and old bushings. Hotchkis stock-length shackles with poly bushings (PN 17367, \$92) will return proper spring geometry and suspension movement for better ride and handling. These U.S.-made heavy-duty shackles feature 1/4-inch steel with Grade 8 hardware. The bolts feature a shoulder to prevent over tightening the poly bushings.



Our 3.55 Sure-Grip 8 3/4 rear axle was stripped of the '80s paint and sanded down smooth. The brake lines received the wire wheel treatment and were clearcoated with leftover Eastwood Diamond Clear. Here we're applying Rust Encapsulator then following up with four thick coats of 2K Aero Spray Chassis Black.



While cleaning off the old paint we discovered that all the original paint dabs were still present. The original paint dabs were just too cool to cover up. We decided to preserve the paint dabs for future reference with coverage of the aforementioned Eastwood Diamond Clear. For our old pinion snubber, we replaced the rubber bumpstop with an Energy Suspension polyurethane unit (PN 9.9101G, \$14.97 pair).

Performance Suspension Technology made it easy to order these "custom" Hemi-style leaf springs (PN LEAFSHD, \$519). We wanted an extra 2



inches of arc to the 7-leaf (right side) and 6-leaf (left side) springs for a period-correct street machine stance. The new springs were similarly treated to Eastwood's Rust Encapsulator and 2K Aero Spray Chassis Black as their related components.

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The hole in the framerrail for the shackle bushings had years of rust and scale that needed to be removed to enable the poly bushings to slide into position (above left). We then coated the shackle bolts and bushings with chassis/wheel bearing grease before installation. The same lube-treatment was given to the main bolt for each front spring hanger.

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Rags soaked with Eastwood's PRE (PN 10194ZP, \$16.99) were used to lightly wipe off dirt and grime from the underside. A follow-up with compressed air removed any loose dirt and old undercoating. The entire back half of the undercarriage and the wheel-houses were sealed off with six cans of Rust Encapsulator.



Before rolling the assembly back in place, we took advantage of the room to access the upper shock bolts and installed new QA1 Stocker Star single-adjustable shocks (PN TS901, \$159 each) to match the front QA1 dampers. The front spring hanger and U-bolts were snugged to only 20 ft-lb. All the fasteners were torqued to spec once the car was down.



In the "before" shot you can see the outdated long shackles, yellow air shocks, saggy leaf springs, and everything else painted black for an uninspiring look. Now, the view of our detailed rearend is dressed to impress. The ride and handling is so much better, proving that all of our handiwork was time well spent.



Here's looking at the ugly "before" and beautiful "after" shots. The factory rear sway bar and brackets received a couple coats of the leftover 2K Aero Spray Chassis Black. The Eastwood products will keep our rearend lookin' good for a long time.

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It might be a full-blooded street car, but this Valiant sure looks mean in drag trim—M&H slicks and no hubcaps! But can it run as good as it looks?



BY JOHNNY HUNKINS
PHOTOGRAPHY BY THE AUTHOR & STEVE DULCICH

PROJECT VALIANT: TRACK ATTACK!

OUR INDY-POWERED
1968 PLYMOUTH VALIANT
HITS THE DRAGSTRIP FOR ITS
MAIDEN VOYAGE DOWN THE
QUARTER-MILE.

We thought we'd never see the day, but it finally happened. The Violent Valiant got to make passes down the quarter-mile, and we're here today to tell you about it. For those who want the full video experience, head over to MoparMuscle.com and look for it on the video menu.

Taking a car like this to the track is a double-edged sword. Some guys couldn't care less if they drag raced their cars; it should run a certain number because it weighs a certain amount and has a certain type of motor, trans, gear ratio, and tire. Those are the proxy drag racers whose cars are assumed to be as fast as "x" because their car is almost the same as car "y," which ran as fast as another car "z" that actually went to the track. What they know about drag racing comes from what they heard from the 1 percent guys who do all the drag racing. The 1 percenters are the super sharp guys who

live at the track, and whose constant tuning efforts result in jaw-dropping performances that keyboard jockeys quote chapter and verse, and take for granted.

That said, we fall right in the middle of no-man's land with our '68 Plymouth Valiant. The 11-second timeslips we produced here may not be up to speed with the 10-second 'slips that experienced NHRA Stock Eliminator racers are accustomed to, but they're a damn sight faster than the ones a legion of proxy Facebook racers have (or don't have) in their glovebox. We've got a big motor with little tires stuffed into a street-legal car that has never run down track, but that with some tuning, can probably hit the 10.90 mark. It's not an NHRA class racer, or even a weekend bracketeer, it's a fast street car with all the baggage that entails. Hey, we love a challenge! But before we get started, let's review the hardware.

We began with a 500ci low-deck



The heart of the beast is an all-aluminum Indy-built 500ci low-deck big-block that puts out 657hp at 6,100 rpm. With a full-on accessory drive including alternator, water pump, and power steering pump, a full exhaust, then a power-hungry race-prepped A727 and a Strange S60 rear, that number falls to 457 hp at the rear wheels.



Part of our track prep was getting a pair of M&H 8.5x26 M&H Racemasters (on 7x15 steelies) from the tire experts at Coker Tire in City of Industry, California.

wedge built by Indy Cylinder Head using an aluminum Indy Maxx block as the basis. An Eagle rotating assembly (4.125-inch stroke) with pump gas-friendly 10:1 Diamond forged pistons (4.375-inch bore) is teamed with a mild COMP solid-lift cam with 245/251 degrees duration at .050 that yields .594/.612-inch lift via T&D/Indy shaft rockers. Induction is through dual AFB-style Edelbrock #1404 500cfm Performer carbs on an Indy modular Mod Man intake; these feed a pair of Max Wedge-dimension 440-EZ-1 heads with 275cc intake ports and stock-location exhaust ports. The mix is lit with a combo of MSD products including a Pro Billet distributor, 6AL ignition box, and Blaster HVC coil. Exhaust is ushered out by a set of TTI 2-to-2.125-inch stepped long-tube headers into a TTI dual 3-inch X-pipe with Dynomax Super Turbo mufflers and axle turndowns. On Indy's engine dyno, output maxed at 662 lb-ft of torque at 4,500



Our MO with the Valiant: drive it to the track and swap the street radials for slicks. Tiny wheelwell openings on the Valiant dictated we jack each side of the car separately. Note the kneepads from Home Depot!



Having some good help with a sharp eye is something we recommend when going to the track. We had Mopar tech guru, Steve Dulcich, in the house. Checking fluid levels and inspecting the engine beforehand and between runs can improve performance and avert potential problems.



When breaking in a new set of slicker tires, a good burnout is a must. Don't judge a set of tires on the first couple of runs—it sometimes takes a few launches before the grip comes around. That said, too much of a burnout can turn all that "stick-tion" into something that feels like slippery oil.



Photographic evidence can be incriminating. From the first run, the Valiant exhibited a dead hook to the right as the left-side tire would dig into the concrete and send it pointing in the other direction. Here you can see how the driveshaft cranks on the axle and unplants the right side. For the next session, we'll need to dial in some preload to that right rear side.

rpm, and 657 hp at 6,100 rpm. Installed in our Valiant in front of a TCI-built Super StreetFighter A727 trans/converter combo and a Strange S60 rear with 3.54 gears, then tuned in a series of chassis dyno runs, it put down a max peak rearwheel horsepower of 457 hp at 6,000 rpm on Westech's SuperFlow eddy-current dyno.

Our Valiant is equipped with the full range of Reilly Motorsport's suspension gear, including the AlterKtion tubular front K-member with rack-and-pinion conversion and Wilwood disc brakes. In the rear the Valiant wears Reilly's Street-Lynx four-link system with a Strange S60 rear and Wilwood disc brakes. Both ends are tied together with weld-in US Cartool subframe connectors and all four corners are sprung on Viking double-adjustable coilover shocks. All in all, it's a big investment in hardware, and considering the outlay, the expectations on the dragstrip are commensurately high. On

paper, high 10s is the logical outcome, but we have to start somewhere.

Anticipating the need for traction with a verified 457 hp at the tire, we took the little Plymouth to Coker Tire in City of Industry, California. After trial-fitting several tires inside the factory-sized wheelwells, we settled on Coker's reproduction of the classic 8.5x26 M&H Racemaster, mounted on US Wheel 7x15 steel Mopar rims. We used M&H Racemasters back in the day with good results, and we banked heavily on past experience to guide our selection here. With no more excuses, we made the 45-minute drive out to the Auto Club Dragway in Fontana, California, and piggybacked onto a half-day test session with *Car Craft*'s twin-turbo 1971 Demon and *Roadkill TV*'s twin-turbo F-Bomb Camaro.

At this point, our goal was simply to feel the car out, checking it for problems. These can come in a variety of flavors,

including tires rubbing, fuel starvation, a slipping or slow-shifting transmission, throwing accessory belts, too much crankcase ventilation pressure, fluid leaks, odd valvetrain noises, electrical gremlins, coolant overflow, and instability at launch and at high speed. Drag testing a powerful car like this for the first time really isn't about the engine tune or suspension settings—it's about keeping your head on a swivel, looking, listening, and smelling for trouble, as well as learning the behavior of the car in general. If any hint of trouble appears on any front, it's best to get out of it, pull it over, and put eyeballs on it immediately.

To the Valiant's credit, all the mechanical systems worked flawlessly—a good thing, because we didn't have the luxury of a trailer like the *Car Craft* and *Roadkill* crews. In the course of five runs, we stepped it up from a "let's get acquainted" 11.46/120.2 to an 11.25/121.6, trimming two full tenths off the e.t. with a

more aggressive launch and higher shift points.

After five runs, we began feeling more comfortable with the Valiant, learning its handling traits, exploring shift points, and seeing what the tires liked in terms of a burnout and tire pressure. We discovered our 8.5x26 M&H slicks liked about 8 to 10 seconds of burnout, which we performed in Second gear at about 4,000 rpm. Launching on the footbrake, we could brake the motor and converter

to about 2,300 rpm, then flash the converter to 4,000 rpm at launch, sweeping the motor right through the fat spot in the torque curve—3,600 rpm according to our chassis dyno testing.

By our last run—an 11.25 at 121.6 mph—we were confident enough in the Valiant's mechanical systems to put together a fairly decent pass, shifting Second and Third manually at our peak power of 6,000 rpm, and putting tire pressure at 16 psi. Through the lights,

the Auto Meter tach showed 5,900 rpm, leaving us some room for later improvement. Run number three proved to be an interesting one. After starting out initially with 16 psi in the slicks, we opted to drop it down to 14 psi for that run. This resulted in too much sway at the rear, which steered the car hard to the left-side wall when we clicked Second gear. That run was aborted, but a lot was learned. We got our best 60-foot time from that run because we thought the lower tire



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We check and readjust the tire pressure before every run; heat from burnouts and uneven heating in the sun can cause huge swings in pressure throughout the day, not good if you want consistency to track the effectiveness of your changes. We found that a relatively high pressure of 16 psi worked best. We plan to go higher next session—we'll stop going up when the 60-foot slows, then turn the pressure down a notch.



For an engine of this power hitting this small a tire, you want to see good weight transfer to the rear with the tire planted widely, as seen here. Here's where an aluminum big-block, a tubular front K-member, and a relocated battery start to earn their keep. The "bones" are here, we just need to tune the chassis.

ON THE TRACK

pressure would bite harder off the line. What we found out later was we could still launch it just as hard at the higher 16 psi, but with a lot less swaying down track.

Beyond that, we began making notes for the next test session. A review of the video footage and photography—as well as seat-of-the-pants feel—told us the car was hooking and pulling hard to the right on every launch. This is typically the result of axle torque, which happens when the driveshaft tries to rotate the axle counterclockwise, as seen from the rear. Most drag cars solve this by applying pre-load to the right (passenger) side of the rear axle. Since our RMS Street-Lynx rear suspension is equipped with Viking coilover shocks, it's simply a matter of adjusting the ride height higher on the right rear. Once we get a handle on our dead-right hook, we'll sneak up on the compression and rebound settings of the Viking shocks. We may also try airing the slicks up incrementally to lend more stability and gain some mph. Looking at the trap speed, the dyno numbers, and our curb weight (3,368 pounds with driver), there's really nothing in our way to pulling down a high 10-second timeslip—all we need is some tuning and some hard-core driving. 🏁



The way we will do that tuning is right here. Next time, we'll start with cranking a tad more ride height into the right rear coilover to give that corner some pre-load. We'll also soften the compression in the rear Viking shocks while stiffening the rebound. In the front we'll do the opposite: soften the rebound and up the compression damping. In hindsight, we should've mounted the shocks with the adjusting knobs facing inward (inset)—currently we need to unbolt the tires to gain access.

RUN:	60-FT:	1/8 MILE:	1/8 MPH:	1/4 MILE:	MPH:	NOTES:
1.	1.742	7.378	95.89	11.465	120.25	16 PSI, 5.8K SHIFT, SEAT TOO FAR BACK
2.	1.729	7.349	96.46	11.408	121.11	SAME, 6K SHIFT, SEAT MOVED FORWARD
3.	1.636	-	-	-	-	14 PSI, HARDER LAUNCH, RUN ABORTED
4.	1.753	7.328	97.01	11.367	121.54	BACK UP TO 16 PSI, 6K SHIFT, SAME AS #2
5.	1.635	7.211	97.01	11.251	121.61	16 PSI, HARDER LAUNCH, 6K SHIFT



Done for the day, we swapped the Coker redline radials back on and threw the jack and tools in the trunk. No trailer needed! The cash we save on a truck and trailer payment (and insurance) goes a long way for other cool stuff.

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WEST COAST SPRING FLING

The 24th Annual CPW Spring Fling in Van Nuys, California, brought out the West Coast's coolest Chryslers!

For decades, *Mopar Muscle* magazine was based out of the East Coast, and as a matter of practicality, featured a ton of coverage from events along the Right Coast. Now that we've moved out to sunny Southern California where we have the luxury of enjoying our Pentastars year round, our participation leans (Bob Uecker voice here) a little more to the Left Coast. One of our more local events that we've become extremely fond of is put on by the Chrysler Performance West car club. The CPW is based in the San Fernando Valley and calls itself "event oriented," and to that effect they put on the two largest annual all-Chrysler car shows in Southern California (Spring Fling and Fall Fling), both taking place in beautiful Woodley Park in Van Nuys, California.

Spring Fling is huge—drawing over 700 cars and 9,000 spectators over two days—but it's more than just a car show. There are cruises and parties put on by smaller groups like the South Bay Mopars and the Television Motion Picture Car Club, an open-lap track day at Willow Spring Raceway on Thursday, a cruise that runs through the Malibu mountains and along the Pacific Coast Highway on Friday, and the Saturday night cruise to Bob's Big Boy in Northridge. Being close to Hollywood, plenty of celebrities from the movies, television, and the music industry stop by to rub shoulders with other like-minded enthusiasts. For 2015, Spring Fling was held on April 11-12, the ideal time of the year to visit. We can honestly recommend it as a premier Mopar destination to those outside the area—especially if you've never been to the West Coast. For more information on upcoming CPW events, go to CPWClub.com. We hope to see you out here soon!



Larry Shaw of Northridge, California, is the original owner of this well-preserved '68 Dodge Charger. It's still got the original 383 big-block, 8 3/4-inch rear, and TorqueFlite A727 trans. We don't think he's ever going to sell it!



We would be loath to modify a 1-of-62 '71 Plymouth GTX Pistol-Grip 440 Six-Pack car, and owner Mick Lance (Simi Valley, California) feels the same way. Other than a set of new BFG tires, the four-speed has been restored just as Ma Mopar built it.



We always have a good time when we hang out with the South Bay Mopars club, and member Patrick Reddy (Santa Monica, California) brought out his 440-powered '74 Plymouth Road Runner. It's a little rough around the edges, but we love it because it's a true driver.



Chrysler's color palette was adventurous for 1970 and Lemon Twist is one of our favorites, seen here on Edward Maurer's '70 Plymouth Duster. Besides the healthy 340 small-block under the hood, Maurer's A-Body also packs a 3.91-geared 8 3/4 rear, a five-speed Tremec, and 17-inch wheels.



This completely stock 383-equipped '65 Dodge Custom 880 wagon with 67K miles is not only a functioning, driving survivor, it's a factory four-speed to boot. The owner was attempting to sell it as a brick of gold and being overly opportunistic about the price, so we won't mention his name or hometown here. The car was unbelievably cool though!



Tony Loguzzo (Shadow Hills, California) has been building movie cars for decades, and now semi-retired loves building hot rods on the side. His business model: start building a project—like this perfectly patina'd gasser-inspired '55 Plymouth Savoy—find a buyer, then finish it out to the new owner's specs.



Aaron and Kecia Tinoco of Upland, California, poured everything they had into the restoration of their '69 Plymouth Road Runner, and it shows. The 440-equipped B-Body runs a 727 automatic and an 8 3/4 rear with 3.55 gears. Minor upgrades like Right Stuff disc brakes, KYB shocks, an aluminum radiator, and trick 20-inch wheels make it far more fun to drive.

In the collector world of '69 Plymouth B-Bodies, the GTX and Road Runner model get all the attention, but in German Landerot's world, it's the Satellite that takes the main stage. German's 383-powered Satellite is all stock with a set of Aero 15x7 steelies and a fiberglass six-pack hood to give it a racier look.



WEST COAST SPRING FLING



We've been burned before into believing a '68 Dart was a rare 1-of-80 Hurst-built LO23 Hemi cars, so we'll simply pass along that owner Ron Collins claims this is one of those. Maintained and raced regularly over the years (note the non-stock intake manifold), Collins had it for sale at \$195K.



Part of the CPW Spring Fling is the Malibu Cruise, which we enjoyed driving on with our '68 Plymouth Valiant project car. This four-hour open-road adventure runs through town and on the winding roads of the Malibu hills overlooking the Pacific Ocean. There are plenty of photo stops along the way that allowed us to visit with fellow Mopar motorists.



The hardtop sportroof Darts built from 1967-1969 get all the attention and command the big money, but we fell in love with this two-door post car, which shares a similar greenhouse silhouette with our '68 Plymouth Valiant. This all-original survivor had the 225ci Slant Six, dealer-installed A/C, and AM/FM thumbwheel radio.



As cars have gotten better and faster, Larry Peterson (Pasadena, California) has upgraded his '68 Dodge Charger—a car he's had since new—accordingly. It goes beyond the built solid-roller 440 too; an AlterKtion front suspension with rack-and-pinion steering, four-wheel Baer disc brakes, and 17-inch Cragars with Nitto rubber make this an all-around performer.



This heavily modded '15 Scat Pack Shaker Dodge Challenger was the star of the *Furious 7* movie. It was a big hit with kids of all ages because it featured a jungle-jim rollbar, pushbars, and an open roof.



This sweet '64 Dodge Polara packs a 440, and is owned by KNX1070 sports beat reporter and CPW club member Randy Kerdoon. We dig this car's push-button shifter—1964 was the last of the breed, as was the B-Body Polara in general.



Besides a built-up 450hp 440 with Edelbrock heads and a Bullet roller cam, Brad Bigelow's '70 Plymouth Road Runner has a street-friendly Legend 700 five-speed overdrive trans and upgraded Wilwood disc brakes. The superclean paint was laid on by SoCal Paintworks in Santee, California.



You never see them anymore, let alone in this fine condition, so we had to include this shot of Michael Rangel's '68 Dodge A100 pickup. The "forward control" cab-over design made driving one "fun," and this one features a 318 small-block. The period-correct slot mags make it extra cool!



We took some time to hang out with the Mopar exhaust experts at TTI. Unlike other header and exhaust manufacturers, they only do Mopars. They had lots of product on display, including their new lineup of Gen III Hemi stuff for late-model LXs and Hemi swaps.



Rudy Schings of Chatsworth, California, is a local drag racing legend, winning his class with an Arlen Vanke-prepped Plymouth at the Indy Nats in 1968. He's hung up his racing helmet and now enjoys the Mopar hobby behind the wheel of his Hemi-powered four-speed '67 Plymouth Belvedere II.



C-Bodies are often ignored by purists, but we embrace them, especially one this nice. Ray Tepfer's '65 Plymouth Sport Fury is large and in charge, thanks to its 440 Six-Pack motivation. A Gear Vendors overdrive makes it the perfect freeway flyer.



Motech Performance is one of our go-to shops in the Southern California area (Murrieta, California), and they were there at the CPW Spring Fling to turn horsepower dreams into tire-smoking realities. They have done excellent work on our '68 Valiant and we give them a solid thumbs-up.

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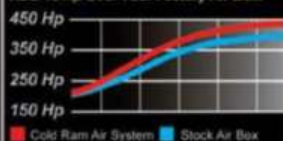


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There are two equal truths about buying someone else's custom-built project: You can save a great deal of time and money by starting off with something closer to your ideal finished car, and you can spend a great deal of time and money fixing all the stuff that's done wrong. It's one of those car guy paradoxes.

At least with a basket case, few excuses are made, and it's plain to see that a lot of work, time, and money will be needed to get it roadworthy again. It's the nice ones that get you. Like the Trojan horse of Greek mythology, sometimes what you see on the outside is not what you get on the inside. With vintage cars of all stripes being a sought-after commodity, it's common for

the seller to be just as clueless as to the car's quality as a potential buyer. The paint may be good, the exhaust may rumble, and all those cool new aftermarket parts look cool, but how does the car function? If you're able to spend some time crawling under it and driving it, you have a decent shot of at least spotting the mechanical gremlins. If you're remote and relying upon the knowledge and honesty of a vintage car dealer, well, may the Lord have mercy upon you.

That was the situation encountered by a young Shawn Romig, now 28, who found a uniquely badass '64 Polara that was for sale a few states away. Shawn had grown up in a Mopar family. His dad was a racer and collector, so Shawn had been up to his eyeballs in Pentastar performance since he was born. Fortunately, he was also born with a mechanical mind and his love of cars and racing led him to pursue a Mechanical Engineering degree. While studying, Shawn learned the two most formative ideas of his mechanical life: the benefits of turbocharging, and the history of the Ramchargers. To apply that first part, Shawn picked up an '05 SRT-4. He modified everything himself and eventually got the little front-wheel-drive sedan running an 11.04 at 130 mph. Turbocharging benefits confirmed!

As for the Ramchargers, what self-respecting racer of any stripe doesn't appreciate that groundbreaking team? The stories of the exotic and experimental race parts, and those romantic images of lightweight Dodges with Candymatic paint schemes stuffed with Race Hemis never left Romig's imagination, so after college he decided it was time to get something vintage.

Though he wanted the vintage style, the engineer in Shawn wasn't going to settle for totally archaic technology. Plus, he had gotten used to the rush of exhaust driven forced induction. He needed something vintage with an infusion of modern power technology—something that looked like 1960s Mopar racing, but breathed at more than one atmosphere.

TURBO

TROJAN TURBO

It was while he was in the initial stages of planning out what the build could consist of that Shawn happened to run across this interesting Polara online. It had a 440, it had a turbo, and it was white with red trim and a red interior. If you squinted and let your imagination run, it almost looked like a toned-down street version of the '64 Ramchargers Candymatic car, while also taking inspiration from Bud Faubel's '65 turbo Hemi honker. It was literally a mechanical engineer Mopar-lover's dream. Plus, it was damn near finished. According to the vintage car stealership, everything had been gone through, and the Polara was ready to rumble. This really seemed like too good of a deal to be true, and certainly too good to pass up. Well, you know what they say about deals like that.

Still, Shawn was enamored with the car since it was so close to exactly what he wanted. After going through a lot of photos and details with the seller, he bought the car over the phone and made arrangements to have it sent to his parent's shop in Pennsylvania. Once the Polara arrived from Michigan, the veil was lifted and it quickly became evident that there were a number of issues to tackle.

Sure, the 440 was turbocharged, but quite a few things weren't thought out. For starters, the "custom turbo system" wasn't quite what it was represented to be, and the tune was deplorable. Though the system had been advertised with nice components, such as a 76mm Turbonetics turbo fitted with a Tial wastegate, they were actually cheapo Chinese knockoffs. The turbo size was also mismatched to the engine; the junk turbo was actually a 65mm T4-style with a .81 A/R that choked the 440 on the top end. Shawn was able to bandage that problem by bolting on a 78 turbo with a 75mm impeller and a .96 A/R, which was the largest that would fit with the current setup until he could take time to fabricate a new system with a proper 96mm



With a plain-Jane bright red interior, low-back buckets, and no rear seat, the interior just screams 1960s Mopar street brawler. The Tuff wheel, B&M ratchet shifter, and Auto Meter and Sun gauges are the only modern appointments so far. When Shawn unlocks the 440's potential, a rollbar may be in the cards, though.



BorgWarner turbo.

But as the infomercial says, *wait, there's more*. The previous owner had also decided it was a good idea to lower the boost pressure by simply cutting the wastegate spring. It wasn't, and that also meant the turbo could only build max boost of 9 psi. Shawn swapped it out and added a mechanical boost controller as well as a four-channel data logger so he could log rpm, A/F ratio, and boost, which dramatically eased the process of tuning. Speaking of that, Shawn had to jet the carb to deal with Pennsylvania weather, and drastically increase the accelerator pump nozzles to get rid of the off-idle hesitation. Truth be told, he's just

dealing with the carb for now as he pieces together his ultimate EFI solution.

On top of that, the ignition system was a wreck. In an effort to prevent detonation under boost, the previous owner had locked the distributor advance out at 22 degrees. That, of course, meant that the engine was running at 22 degrees all the time, which was obviously terrible for part-throttle cruising. An MSD StreetFire ignition box with a 6AL-2 formed the solution. Shawn advanced the timing to 35 degrees and used the MSD box to build a timing curve. With the aid of a 3-bar MAP sensor, Shawn could pull out about 15 degrees of timing before potentially running into rotor phasing and crossfire issues. Not a totally



"Though he wanted the vintage style, the engineer in Shawn wasn't going to settle for totally archaic technology."



It's a homebrewed turbo project, but it's one of the cleanest we've ever seen. The blow-through carb is working well, but Shawn plans on a custom EFI system based off a Mega Squirt ECU.



It's just an undersized 78mm turbo for now, but Shawn has plans for a 96mm unit to replace it soon. Still, it's good for making 610 hp with 12 psi of boost.



A tribute vintage racer wouldn't be right without the appropriate Super Stock hood scoop. The old guys know what it is, but they never expect to see what's under it!



The rear suspension should work well for launching at the track once Shawn gets the housing narrowed, allowing the wide M/T tires to tuck upward without rubbing.



ideal solution, but for now the Polara ran much better.

It ran, but there were several other things keeping the Polara undriveable. The original alternator had been moved to the left side of the engine to make room for the turbo, but it was a moot point since the amperage output was nowhere near high enough to support the radiator and trans cooler fans, the big electric fuel pump, and so on. OK, so Shawn sourced an alternator from an '04 5.7L Hemi Durango that would handle the load, but mounting it proved to be a problem. So they built new brackets and switched over to a custom multi-rib crank pulley setup since a single V-belt wasn't enough to drive the more powerful 180-amp alternator. Shawn then rewired everything to a new solid-state voltage regulator. "The whole process was extremely frustrating," Shawn said. "But now the battery receives a good charge with the current accessories, and it leaves me headroom to power the future upgrades."

With electricity now flowing through the Polara, there was also something else that wasn't flowing very well: coolant. The Polara overheated in short order on a drive, so Shawn decided to upgrade the system with a high-flow electric water pump from Mancini Racing. (Good thing he had upped the electrical system!) Nevertheless, Shawn got the one-in-a-million pump with a manufacturing flaw and it failed during the testdrive. No big deal, Mancini sent him a new one ASAP. Then the Derale electric fan

lost a bearing on the next testdrive. That was swapped out as well. After fabbing up a new aluminum coolant overflow, Shawn finally had the cooling issues all addressed. You might be starting to see why Shawn had begun to refer to the Polara as "cursed" up to this point.

Oh, but the surprises weren't over yet. During another testdrive, the upper ball joint failed. When Shawn got underneath the Polara he saw the suspension bushings were also totally shot. Shawn just wanted a good driving car, so he opted to go with a complete front suspension upgrade. Tubular upper control arms from QA1 were combined with a Super Suspension rebuild kit from PST with higher durometer bushings. The rear suspension held a bigger surprise; the Polara had mini-tubs, but the rearend had not been narrowed to take advantage of that new room before the bigger tires were stuffed in. Consequently the tires rubbed pretty badly on the inside of the wheelwell whenever the suspension moved too much. Shawn now has plans to pull the rear and have it properly narrowed.

Despite that, with most of the issues resolved satisfactorily, Shawn has been getting the Polara out on the road and enjoying it—to the tune of 610 hp at the rear tires. He's even been able to determine that 2,500 rpm with a two-step launch from the MSD Streetfire seems to be the sweet spot for a solid launch on the street. At cruise nights it tends to attract young and old admirers because of the unique

FAST FACTS

1964 DODGE POLARA

CAR OWNER: Shawn Romig • Zionsville, PA

ENGINE

TYPE: 440ci Mopar RB wedge

BLOCK: 1968 Mopar

ROTATING ASSEMBLY: stock crank and rods with forged 9.2:1 JE pistons

CYLINDER HEADS: ported Mopar 952 casting

CAMSHAFT: custom hydraulic Erson grind; .520 lift, 114 LSA

VALVETRAIN: stock valvetrain

INDUCTION: Edelbrock Torker II intake with Black Diamond series Quick Fuel 750 cfm blow-through carb, intercooled On3 Performance 78mm turbo with water/methanol injection

EXHAUST: factory HP manifolds to custom 3-inch dual pipes

IGNITION: MSD 6AL-2 ignition, coil, and Super Conductor 8.5mm wires

COOLING: 26-inch Northern aluminum radiator with custom aluminum overflow and Derale electric fan, Mancini Racing electric water pump

OILING: stock pump with deep sump pan

OUTPUT: 610 hp at the wheels with 12-psi boost

DRIVETRAIN

TRANSMISSION: reverse-pattern TCI 727 with manual valvebody, Frank Lupo 3,500-stall converter, hardened input shaft, B&M shifter with Line-Lock

DRIVESHAFT: stock

REAREND: 8.75 with 3.55 gears and full spool

CHASSIS

FRONT SUSPENSION: QA1 tubular upper control arms with PST bushings and Bilstein shocks

REAR SUSPENSION: Mopar Super Stock leaf springs with Strange adjustable shocks

STEERING: stock

BRAKES: Jegs single-piston fronts disc conversion up front, Right Stuff single-piston disc in the rear

CHASSIS: mini-tubbed rear wheelwells

WHEELS & TIRES

WHEELS: 15x3.5 and 15x10 Billet Specialties Streetlite

TIRES: Mickey Thompson 28x7.50 Sportsman and 325/50 ET Street

combination of vintage Super Stock looks and modern turbocharged power. The troublesome Trojan horse Shawn started out with has turned into a horse of quite another color as the curious are treated to a vintage tribute with a turbocharged twist. Once he gets to tame the last of the small issues and do the EFI conversion, Shawn plans to go from the street to the track. After all, he has a four-cylinder Neon that can run low 11s, so he's got some work to do to make the Polara earn its keep. 📸

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MEDIUM LOT 62434 62426
LARGE LOT 62433 62428
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32502382

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AIR HOSE REEL WITH
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**MECHANIC'S SHOP TOWELS
PACK OF 50**
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STREET-LEGAL SUPER STOCK



BY STEVE MAGNANTE ★ PHOTOGRAPHY BY JORGE NUNEZ

For all the media coverage it got as America's "first" muscle car, the '64 Pontiac GTO was something of an empty suit compared to what Chrysler had to offer shoppers looking for maximum performance. We're not looking for a fight, but facts are facts.

While GM took its 389-cube station

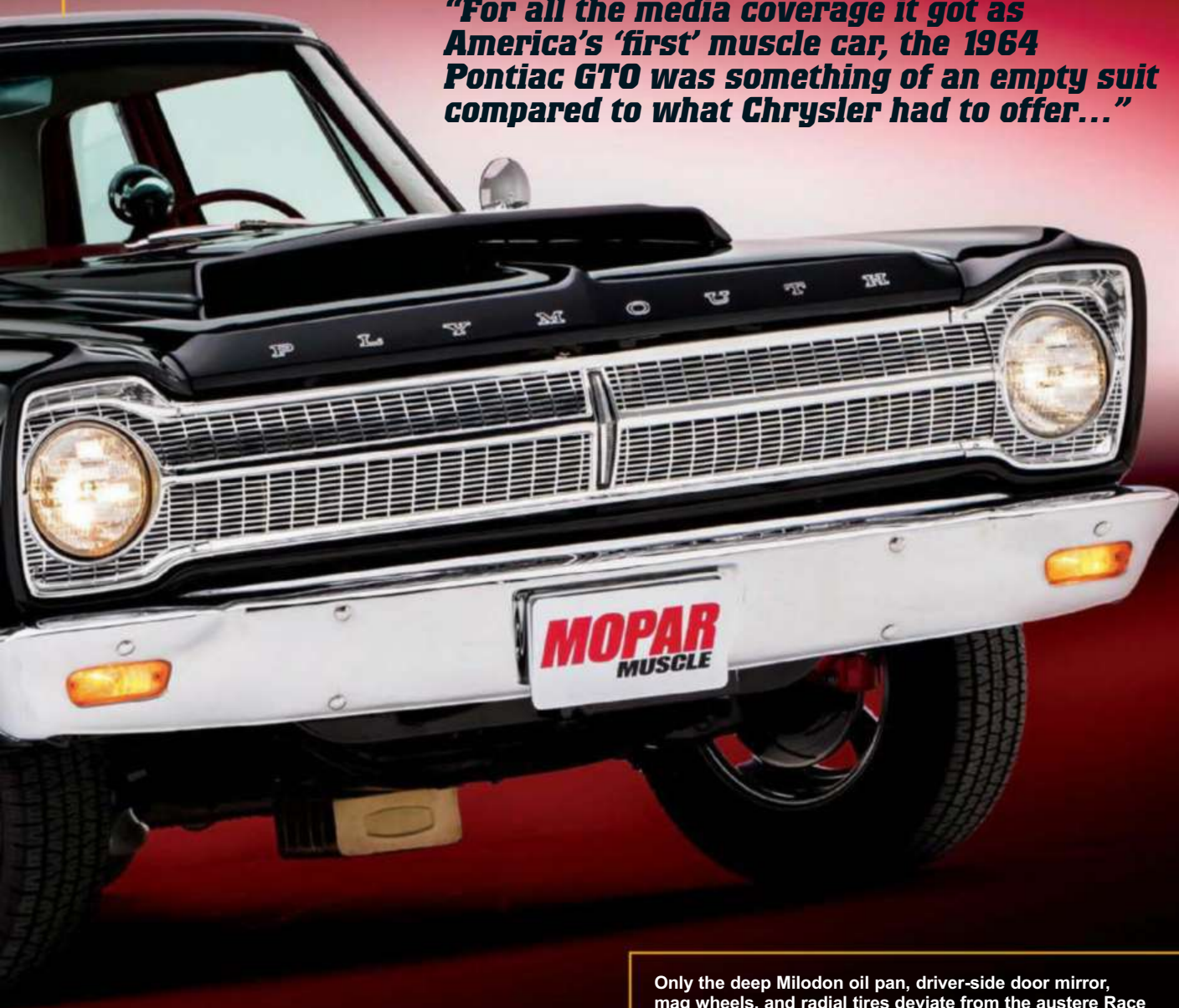
wagon and fullsize workhorse mill and gave it a mild hydraulic cam, semi-log exhaust manifolds, triple two-barrel carburetion mounted atop a hefty iron intake manifold (optional, only fitted to 25 percent—the majority used single 625-cfm Carter AFB four-barrel induction), chromed valve covers and slightly stiffer valve-springs, the '64 Dodge Ramcharger and

Plymouth Super Stock 426 Max Wedge was the real thing, not a dressed up imposter.

We won't get into minutia here, but with its aluminum cross-ram intake manifold, dual 750-cfm Carter AFB carburetors, big port cylinder heads, forged 11:1 or (optional) 12:1 compression pistons, .520-lift solid flat-tappet cam and those

**WITH ONLY 101 FACTORY-BUILT '65
PLYMOUTH SUPER STOCKS BUILT,
JIM COLLINS MADE HIS OWN!**

***“For all the media coverage it got as
America’s ‘first’ muscle car, the 1964
Pontiac GTO was something of an empty suit
compared to what Chrysler had to offer...”***



Only the deep Milodon oil pan, driver-side door mirror, mag wheels, and radial tires deviate from the austere Race Hemi theme. The original RO1 Plymouths were offered in standard catalog colors, though most were white or beige.

wild upswept exhaust manifolds feeding factory installed dump tubes, the only thing the Max Wedge was missing was the fat dose of image Jim Wangers and the GM marketing mavens slathered atop the GTO. Dunno about you, but we'd take a big 426 Super Stock mill over a trio of chrome letters screwed to the Goat's grille, decklid, and quarter-panels any day.

Jump ahead one year to 1965, and the all-new 426 Race Hemi-powered A990 Dodge W01 and Plymouth RO1 Super Stock package cars made the 1964 Max-ies look tame. Continuing our comparison, the new 1965 GTO got stacked headlamps, styled steel wheels, and a bump from 348 to 360 hp (for the top Tri-power engine, installed in 36 percent of all GTOs

that year). More important, the GTO's PR machine went into overdrive with a Top 40 pop song and a series of extra-potent magazine test cars that grabbed headlines.

The changes worked magic on the buying public and GTO sales jumped from 32,450 to 75,352. Among the buyers was Jim Collins, the builder and owner of the sleek, black Plymouth Race Hemi tribute

STREET-LEGAL SUPER STOCK

on display here. A New York native, Jim had just graduated from college in 1965 and was commissioned into the U.S. Army Corps of Engineers as a Second Lieutenant. He celebrated with a turquoise "goat" with the standard four-barrel 389 and a four-speed transmission.

But the party didn't last long. Stationed in Honolulu, Hawaii, he took the GTO with him where it vanished one night in 1966. A few days later, its stripped remains turned up, too far gone to resurrect. So it was off to the local Plymouth dealer for a factory fresh '67 Satellite. Though aware of the '67 RO23 Street Hemi A/Stock package cars at the time, his military lifestyle called for a more practical daily driver. But that didn't stop him from appreciating the Satellite's sure-footed torsion bar front suspension and half-inch larger-than-GTO 10-inch drum brakes. He says, "To this day, I appreciate the 1967 Satellite's body styling; it's one of my favorites."

In 1972 Collins moved to the Los Angeles area and stepped back from active duty to become an Army Reservist for the next 30 years. While not in military fatigues, his weekdays were spent in the aerospace and telecommunications industries, where decades of hard work allowed him to fill the garage with a collection that (currently) includes two Corvettes, a Porsche, a vintage Pontiac woodie, a Jaguar XKE roadster and most importantly, a 1968 Hemi Dart clone, which follows on the heels of the gorgeous black '65 Belvedere A990 on display here.

Our feature car started life as a clean Belvedere I sedan with 73,000 miles on the clock. That was back in 2003. Working mostly alone over the next four years, Jim stripped the car to its bare shell and rebuilt it into one of the most sanitary A990 tributes we've ever seen. Though the original cars were delivered with four-wheel drum single-circuit brakes, a single exhaust system, 12.5:1 compression, and "only" 426 ci, some liberties have been taken to make it a better street runner. "Driving the car is a thrill ride ... it idles at 1,300 rpm and the rev limiter is set at a conservative 6,200 rpm ... while there may be massive drag radials in the back, it does not take much pressure on the accelerator to light up!"

Despite the modern upgrades, Jim made sure to preserve the austere nature of the original A990 package cars. Conjured by Ramchargers member Jim Thornton, weight reduction was the primary goal. Though technically legal for street use, Thornton's decision to delete the passenger-side windshield wiper may have violated some state's vehicle codes. Regardless,

Thornton's A990 recipe also eliminated the rear seat, radio, heater, dome lamp, coat hooks, external mirrors, rear unibody cross-brace, cowl insulation, all undercoating and even the passenger-side sunvisor. To read more about Jim Thornton and the Race Hemi development program, grab copies of Dave Rockwell's biography *We Were The Ramchargers* from SAE International and Jim Schild's *Maximum Performance* from Motorbooks.

Collins, having seen these cars when new, studied many restorations, tributes, and vintage magazine articles on the 1965 Race Hemi package to get it right. When it came to modern upgrades, everything was done to ensure improved streetability. The biggest improvement was bumping displacement to 533 cubes. There's



Readily available reproduction A990 velocity stacks and underhood seal plate ensure the Holleys only ingest cool outside air. For foul weather operation, Chrysler supplied A990s with a single chromed oval air cleaner housing, which is also available today as a reproduction.





Tucked close to the floorboards, the custom 3-inch dual exhaust system doesn't include the dump caps and single, transverse muffler fitted to the actual Race Hemis. Jim also avoided the headache of attempting to locate the thin gauge fenders, hood, scoop, doors, and front bumper of true RO1s. Standard gauge steel panels are used.



Though most 1965 Race Hemi interiors were covered in champagne-colored vinyl, a few documented cars wore red, opening the door to Jim's use of the color. Autos International of Escondido, California, did the work. The A990's front bucket seats are similar to the Bostrom Thin Line seats installed in '64-'70 Dodge A100 vans, though Race Hemi seats were articulated to allow easier access to the rear of the interior.



The mini-tubs allow easy fitment of 10-inch M/T drag radials and 10-inch wide Torq-Thrust rims. Arrow-straight bodywork is the result of countless hours of block sanding.



Compared to the nonfunctional blister affixed to GTO hoods, the Race Hemi's standard "dust pan" scoop was always open to admit dense outside air to the twin Holley carbs. Note Collins' correct deletion of the passenger-side windshield wiper.

nothing like 7 liters of deep breathing Hemi to hurl a midsize B-Body down the street. Also, by chopping the compression ratio from 12.5 to 10.3:1, there's no need to hassle with blended racing fuel or messy chemical additives. In fact, the 675hp dyno reading was achieved with straight 91-octane "California premium" unleaded pump gas. (Unlike many other states, Californians don't have access to 92- or 93-octane unleaded premium gas.)

Jim says, "The car was built for shows and is not a track car." However, there's no doubt it'll crank easy low 11s on a prepared quarter-mile 'strip. Jim may be 71 years young as of this writing, but he enjoys his retirement taking the Plymouth to numerous car shows to share, as he says, "the beauty and history of these cars." So far, it has taken First Place in class at Mopars at the Strip (Las Vegas, Nevada) and The Spring Fling (Van Nuys, California) and Best of Show in class at shows in Pismo Beach, Monterey, and Cayucos, California.

And there's more where this one came from. The 1968 Hemi Dart recreation mentioned previously is almost ready. Like this Plymouth, the smaller Dodge A-Body will be a proper blend of visual correctness and hidden upgrades. Once it's out and about, we'll be sure to grab a feature story and share it here. 📷



Jim prepared the trunk compartment including the massive Race Hemi-spec 90-amp-hour battery. The 1965 Race Hemi package design chief Jim Thornton specified the 90-pound battery (wet) for its helpful impact on front/rear weight distribution. Despite the hefty Race Hemi up front, typical A990s carried 49 percent of their weight on the front tires.



Chrysler didn't adopt the Dana 60 rear axle until the '66 Street Hemi cars came along (four-speed only). Jim's choice of the Dana may irk purists (an 8 3/4 is correct) but with 666 lb-ft on tap, the 8 3/4's limits would be reached.

FAST FACTS

1965 PLYMOUTH BELVEDERE I

CAR OWNER: Jim Collins • Los Osos, CA

ENGINE

TYPE: 533ci Gen II Hemi

BORE & STROKE: 4.44-inch x 4.30-inch

COMPRESSION RATIO: 10.3:1

BLOCK: Mopar Performance slamed bore, iron

ROTATING ASSEMBLY: Eagle 4340 crank, Eagle billet steel rods, Ross forged pistons, Speed Pro rings

CYLINDER HEADS: Stage V Engineering aluminum Hemi with 2.25-/1.94-inch Manley stainless valves and Stage V Engineering cast aluminum rocker covers

CAMSHAFT: Crower solid roller, 298/304 degrees at 0.050-inch lift, .625/.632 lift

VALVETRAIN: Crower solid-roller lifters, Stage V Engineering roller rocker arms, Crower pushrods, COMP timing set

INDUCTION: Chrysler 1965 magnesium cross ram, dual Holley 4160 770cfm carburetors with factory flame arrestors, reproduction Kramer Automotive Specialties fuel lines and linkage

FUEL SYSTEM: Holley electric fuel pump, 3/8-inch lines from tank to fuel pump

OILING: Melling HV wet sump, 1/2-inch pickup and 7-quart pan

EXHAUST: TTI headers with ceramic coating, 3-inch full dual exhaust system with Hooker mufflers

IGNITION: MP electronic distributor, MSD 6AL, 7mm Taylor silicone wires

COOLING: Plymouth 22-inch wide tanks, custom four-row core, MP aluminum pump housing and pump

OUTPUT: 675 hp at 5,900 rpm, 666 lb-ft at 4,700 rpm

BUILT BY: Dale Reed, Irwindale, CA

DRIVETRAIN

TRANSMISSION: '65 cable-operated 727 TorqueFlite with reverse-pattern, full-manual valvebody built by Pro Trans, Lancaster, CA

CONVERTER: B&M 11-inch, 3,000-stall

SHIFTER: factory steering column lever with reverse-pattern quadrant face

REAREND: Dana 60 with 3.54 Sure Grip by Strange Engineering

CHASSIS

CHASSIS: stock '65 Belvedere with stock 115-inch wheelbase, subframe connectors, mini-tubs by Bob Hansen (Azusa, CA)

FRONT SUSPENSION: stock .80-inch diameter torsion bars, no sway bar, KYB gas shocks

REAR SUSPENSION: MP S/S leaf springs moved in-line with framrails, KYB gas shocks, pinion snubber

STEERING: stock manual steering box rebuilt by Firm Feel

BRAKES: SSBC front disc brakes, Plymouth 10x2.5-inch rear drums, dual circuit master cylinder

CAR BUILT BY: owner, with help from wife (Ann Collins), and friends Bob Hansen and Dale Reed

WHEELS & TIRES

WHEELS: 15x6 and 15x10 American Racing aluminum Torq-Thrust D

TIRES: P215/70R15 BFG Radial T/A (front), 315/60R15 M/T drag radial (rear)

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BY STEPHEN KIM ★ PHOTOGRAPHY BY JOHN MACHAQUIERO

Punting the punk that just cut you off into a ditch is something everyone dreams of. If Mahatma Gandhi got with Mother Teresa, even their Zen-incarnate love child would have similar aspirations. Therein lies the allure of demolition derbies. It's lowbrow entertainment at its finest, appealing to an undeniably visceral urge intrinsic to all motorists. And while bashing up cars for sport puts on quite a show, the problem is that the battle sleds of choice are usually '60s- and '70s-era Detroit iron. Oh the humanity. It might not be so bad if it was only Fords and Chevys getting busted up, but one of the most legendary derby machines of all time is the C-Body Mopar. "They're really good at tearing other cars up without getting torn up. These cars are getting harder to find because so many of them are used as demolition derby cars," explains Michael Randall, the proud owner of this '65 Chrysler 300. Instead of using it to destroy adversaries in a dirt ring, he transformed his C-Body into two tons of supercharged Mopar madness that destroys rivals on the street.

Although Michael wasn't raised in a Mopar household, he decided to switch teams even before getting his driver's license. "My dad was a Ford guy, but he didn't know a lot about cars. I was always interested in fixing things ever since I was really young, and I helped fix the family cars when they broke down," he recalls. "I liked watching *Dukes of Hazzard* as a kid, so I always thought Chargers were cool. As my friends and I got older, a couple of them got '68 Chargers. Since there were hardly any Mopars where I grew up, that made them even cooler. I respect all cars. I'm not a Chevy hater or a Ford hater. They all made good cars, and they all made junk. I've always thought of Chrysler as the underdog. If you had a Mopar you were weird, and I wanted to be different."

This aversion to conformity enabled Michael to appreciate cars for their true merit, not by the influence of the masses. Even amongst Mopars, his first car wasn't exactly mainstream. "I was working in a car lot when I saw a 1961 Chrysler Windsor four-door sedan sitting in the back. It was nothing special or in demand, but I thought it looked cool so I worked out a

deal with the owner," he reminisces. Similarly, he never planned on or dreamed of owning a C-Body. Instead, he turned a chance encounter into opportunity. "Back in 1987, I saw this old '65 Chrysler 300 sitting in a field in the rundown part of Salt Lake City," Michael remembers. "I never liked C-Bodies before, but I thought the car's black body and white roof looked really cool. I'm an underdog kind of guy, and for \$400 I couldn't pass it up. The 5.0L Mustangs were the hot cars at the time, so I thought it would be cool to get a big, heavy car, and beat up on them. It took a ton of work to make it happen, but it was worth it."

As luck would have it, the big Chrysler had migrated eastward from a more temperate climate to cross paths with someone who could truly appreciate it. As such, he didn't have to waste any time rehabilitating worn-out sheetmetal before jumping into the good stuff. "I don't know much about the history of the car, but it had a California title when I bought it. The car came from Sacramento, so while the interior was trashed, the paint, body, and chrome were in excellent condition,"

"If you can't get 700 hp out of a blown big-block Chrysler, then you're doing something wrong."—Michael Randall



After competing in the DynoMax Power To The Wheels dyno challenge at Mopars at the Strip in 2009, DynoMax liked Michael's C-Body so much, they decided to feature it in their ads. Incredibly, the paint and body is original.



Even when the big Chrysler isn't roasting the tires, it still draws lots of attention. Says Michael, "Some nut walked up to me at a gas station and told me something's wrong with my car because the power steering is making lots of noise. I thanked him and said I'd look into it."

Michael explains. "The 383 in it was on the verge of throwing a rod, and the transmission was toast. Since the car had a bunch of mechanical issues and C-Bodies weren't that rare at the time, I thought that I could feel good about doing whatever mods I wanted. Right away, I built a 440 motor for it and installed a 727 trans with an aftermarket shifter."

With two tons of mass to propel, the big-block Chrysler still wasn't brawny enough to chase down those flyweight Mustangs. Consequently, Michael decided to take advantage of the 440's bulletproof short-block by engaging in chemical warfare. "I put a 250-shot of nitrous on it, and removed anything under the hood that wasn't necessary in order to save weight. That included the air conditioning and heating system," says Michael. "By removing the heater box, I was able to hide the nitrous bottle under the dash really well. In that configuration, the car ran 12.90 at 115 mph. It was a lot of fun for me to take a two-ton beast and make it run hard. After playing around with the car for a few years, I came across a '67 Newport with an A383 four-speed manual trans. I used the hardware off of the Newport and swapped it over to my Chrysler 300. I also swapped the manual steering and manual master cylinder off of the Newport onto my car."



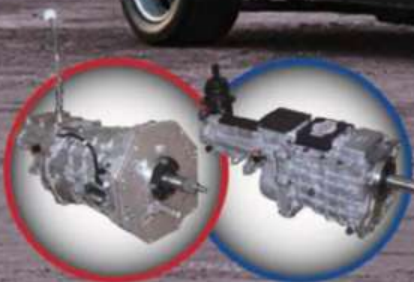
At the time Michael built the current combo, no one offered centrifugal superchargers for big-block Chryslers. Luckily, he found a shop that adapted a kit off of a big-block Chevy to fit the Chrysler RB block.



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When Michael saw the Chrysler 300 sitting in a field for the first time, the hardtop body and contrasting black-and-white color scheme made quite an impression on him. Nearly 30 years later, it still stands as his most gratifying project car.

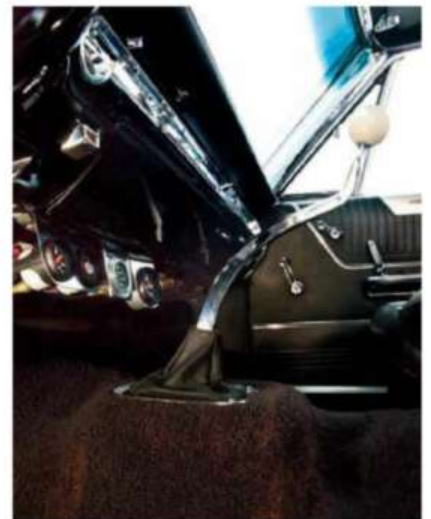
“These cars are getting harder and harder to find. Save a C-Body and dare to be different.” –Michael Randall



Although he didn't know it at the time, converting over to the manual hardware meant that his car would someday be a low-mileage survivor. “One of the guys I worked with at the machine shop liked my car, and always asked if I was ready to sell it to him. I was going through some tough times and needed the extra money, so one day he asked again and I finally said ‘yes,’” Michael laments. “I thought he'd take good care of it because he was so interested in the car, so I was shocked to see it for sale on a used car lot a few months later. The owner of the lot was a friend of a friend. He liked the car so much that he decided to keep it. The guy was in his 60s, and because of the stiff clutch and manual steering and brakes, the car didn't get driven that much. He parked it in a garage and covered it up with blankets.”

Luckily for Michael, since he knew the car's new owner through a mutual friend, he was able to keep track of it over the years. “He took the car to a Dodge dealer each year to get it inspected, so I was always worried that some Mopar guy was going to offer to buy it. I'm sure glad that never happened,” he snickers. “In 2007, I was in much better shape financially so I was able to buy the car back. I had to pay a lot more money than what I sold it for, but the seller said ‘this is really your car anyway so you can have it back.’ I finally had the means to make the car a lot nicer than when I first owned it, so I completely restored the interior with new leather and carpet. I originally cut a hole in the trans tunnel and stuffed a towel in it when I first swapped in the four-speed, but I was able to find and install the correct tunnel out of a factory four-speed '65 Fury.”

Addressing issues that had nagged at him for decades was great, but the competition had gotten a lot faster over the years. Consequently, Michael decided to trade in the nitrous for a power adder of different sorts. “I debated putting the 440 into a



During Michael's street racing days, removing the A/C and heater box provided a nice spot to hide the nitrous bottle. That made the car too cold to drive during the winter, so he later modified and installed a heater box off of a Dart.

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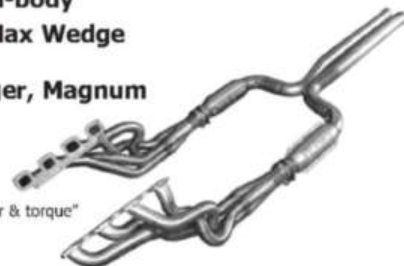


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lighter car, then building a milder motor for my C-Body, but my wife told me that was BS," Michael laughs. Now that his better half put him back on the straight and narrow, he capitalized on another great piece of advice. "A good friend of mine told me I needed to put a ProCharger on my car. He owned a performance marine shop, and had great luck with them on all his boat engines. I thought a blower would be interesting and different, so I installed the ProCharger and spent some time rigging up a blow-through setup for my motor."

With the forced-induction setup all sorted out, the 440 ran great. So great, in fact, that it didn't last for long. Before it quit, the combo put down 528 hp on the chassis dyno without much tuning. To build the new engine for forced induction from the ground up, Michael opened up the bore to 4.350 inches, and fitted the block with a Muscle Motors 4.150-inch crank, steel rods, and Diamond 9.3:1 pistons. The blower feeds boost into a Holley 750cfm carb, an Edelbrock Torker II intake manifold, and ported Mopar Performance cylinder heads. A Hughes 240/240-at-.050 hydraulic cam bumps the valves, while exhaust exits through Hooker long-tubes and dual 3-inch DynoMax mufflers.

Eager to test the new combo, Michael lined up the big C-Body at Mopars at the Strip 2014. Unfortunately, with so much power and weight to endure, the clutch went up in smoke. "With the manual trans, the car is either breaking the tires loose or breaking parts. This new combo runs so much better than the old one that I figure the car would go low 12s or high 11s here at 4,600-foot elevation," Michael estimates. "I hate to quote horsepower numbers since the new setup hasn't been on a dyno, but I think it would put down 600 to 700 rear-wheel horsepower. If you can't get 700 hp out of a blown big-block Chrysler, then you're doing something wrong."

With that much power and weight wrapped in virtually indestructible sheet-metal, the good news for demolition derby cars is that Michael rescued his anvil from a life of bashing fenders. The bad news for everyone else is that now there's a flying anvil loose on the street that can easily smoke cars half its size. And it certainly stands out. "I know I can go anywhere and not see another blown, big-block, four-speed C-Body. I have owned lots of Mopars over the years and this one is my favorite," Michael confesses. "These cars are getting harder and harder to find. Save a C-Body and dare to be different." 🏆

FAST FACTS

1965 CHRYSLER 300 SPORT

CAR OWNER: Michael Randall • Centerville, UT

ENGINE

TYPE: Chrysler 493ci big-block

BLOCK: factory 440 block bored to 4.350 inches

OILING: Melling oil pump, stock pan

ROTATING ASSEMBLY: Muscle Motors 4.150-inch crank and steel rods, Diamond 9.3:1 pistons

CYLINDER HEADS: ported Mopar Performance aluminum castings

CAMSHAFT: Hughes 240/240-at-.050 hydraulic flat-tappet, .545/.545-inch lift, 110-degree LSA

VALVETRAIN: Hughes valvesprings, timing set, and pushrods; COMP Cams rocker arms

INDUCTION: Edelbrock Torker II intake manifold, Holley 750cfm carb

POWER ADDER: ProCharger D1 centrifugal supercharger

IGNITION: MSD 6A ignition box, Mopar Performance distributor

EXHAUST: Hooker 1.875-inch headers and dual 3-inch DynoMax mufflers

COOLING SYSTEM: Wizard Cooling radiator and electric fan

DRIVETRAIN

TRANSMISSION: New Process A833 four-speed manual, custom clutch, Hurst shifter

REAR AXLE: Chrysler 8.75-inch rearend with 3.91:1 gears and limited-slip differential

CHASSIS

FRONT SUSPENSION: stock

REAR SUSPENSION: stock with custom air shocks

BRAKES: stock 11-inch drums, front and rear

WHEELS & TIRES

WHEELS: 17x8 American Racing Torq-Thrust II, front and rear

TIRES: 255/60ZR17 Toyo Proxes, front and rear



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NEW REPRODUCTIONS: OIL FILTER & POWER BULGE TRIM

We captured these two new items at the Chrysler Carlisle Nationals this past July while visiting at Herb's Parts. You wouldn't think we'd get all excited about an oil filter, but Herb's has just finished reproducing a stunning copy of the OEM oil filter that came on Chryslers. (Check with Herbs for correct model year.) All the colors, fonts, and script are 100-percent accurate, and the filters have modern filtration media, meaning they do a way better job of filtering oil than the vintage NOS item. We also saw some new hood power bulge insert trim pieces for '68 Dodge Coronets that we'll let you have a peek at here. We're told these will be made in both satin and shiny chrome versions.



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If you're planning to fuel inject your Mopar A-Body, you will want to take a look at the EFI-specific tank from Tanks Inc. This stock-style powdercoated gas tank has all the internal baffling needed for both vintage engines with EFI conversions and late-model EFI engines. This tank also features a thoughtfully conceived recess for the fuel pump and sending unit to ensure adequate space for fuel lines and wiring without modification to your floor. The price for the tank, pump, and sender is just \$500.

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E-BODY TRIM: '72-'74 'CUDA GRILLE

The final three years of Barracuda production might've been the swan song for performance at Plymouth, but it was also the pinnacle of styling for the brand with what is arguably the nicest-looking grille ever to adorn the brand. Until now, fans of the '72-74 Barracuda could only restore their existing grille or search for a better used one, but now Vans Auto has begun reproducing them. Made of superior modern plastic that better resists cracking and embrittlement, Vans reproduction 'Cuda grilles are painted the factory argent color and can be yours for just \$750. If you need the companion headlight bezels, Vans has those too for an additional \$135 per pair.



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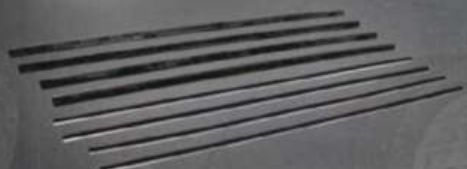
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PERFORMANCE CLINIC

STEVE DULCICH, CONTRIBUTING EDITOR

GASKET LEAK

I had a very nice 360 engine built for my 1974 Dart, and mated it with a 727 trans. I know this car is not one of the coveted Mopar muscle cars, but it has been in the family for many years, so I wanted to build it into a super clean street driver. While the engine was out, I completely stripped the engine bay and repainted it in the factory white paint. I also pulled the suspension and rebuilt that and the brakes, detailing every single nut, bolt, and clip. On

the engine stand, I painted the 360 with the factory Mopar blue paint, and again, detailed every part of the engine to show quality. I picked up some TTI ceramic-coated headers, and had the whole exhaust system coated so it would always look great.

The problem is, leaking oil is destroying all my detail work. I am pretty sure the leak is coming from the valve covers, since I can see the oil wetness around the rail at the top of the heads. Since this wasn't a restoration, my engine builder used a set of chrome

valve covers, and I really like the way they set off the blue of the engine. I changed the gaskets a couple of times, trying both the cork and fiber type. Last time around, I siliconed the gaskets on both sides before installing the valve covers, but they still seem to be leaking. My expensive headers are now oil-stained and I have dirt sticking to the oil on the sides of the block. How can I get this engine to seal?

JERRY GREENE

Jerry, I know exactly what you are up against having put all that work into making your Dart perfect, and then having to suffer through an oil leak ruining the effort. The obvious suspect here is the chrome valve covers. Often, cheap generic valve covers are problematic, and the five-bolt LA engine design is not the best sealing system to begin with. With a sheetmetal valve cover, the thin sealing rail can easily be distorted, and that is assuming it is flat to begin with. The flash chrome on the inside of the rail is a poor surface to seal against, and most gasket sealants fail to bond thoroughly against the chrome. In fact, Chrysler's later small-blocks addressed the marginal sealing here by doubling the number of fasteners and using a much more rigid valve cover, as well as changing to better gaskets in the Magnum engine. The best thing you can do is run a quality cast aluminum valve cover, which is much more rigid than their stamped steel counterparts.

That said, if you carefully cleaned the sealing surfaces, taking care to remove every trace of oil film, and then glued the valve covers on with silicone on both sides of the gasket, you should have sealed them the last time around. You may have failed here for a variety of reasons, such as a contaminated sealing surface, fasteners bottoming in their holes, or distorted/misshapen valve covers. Assuming you did all this perfectly, your leak may not be coming from the valve covers at all. There are several other sources of potential leaks at the top of a small-block Mopar, and these can often be confused as a valve cover leak. Common trouble areas include the rails at the front and rear of the intake manifold, the oil pressure sender at the rear of the block, the distributor O-ring seal to the block, and even oil wicking up the manifold bolts. I have commonly seen oil leakage from each of these sources. You are going to be chasing your tail on this one unless you have the leak source identified with complete certainty.

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HOW MUCH COMPRESSION?

I have a 383 block that I am building for my street driver. The car is a 1972 Dodge Demon that originally came from the factory with a slant-six 225 cubic-inch engine. I already have a set of nice 906 cylinder heads to have rebuilt. I have looked at a couple of different sets of pistons, including the stock replacement cast pistons and flat-top performance pistons, and I find that the compression ratio ends up under 9:1. I wanted to pump that number up some, but I don't want to have to go to a custom domed piston. I was thinking I could deck the block 0.040 inch, and then mill the heads 0.060, but is this the best way to go?

BRETT STONE

Brett, the difficulty here is the large volume of those open chamber 906 heads. These commonly come in at 88-90cc, and that makes it tough to get the compression ratio up with a flat-top piston. This becomes even more of a problem when you add in the valve notch volume of a performance piston.

When you go with the heavy milling option, you will run into problems with the manifold alignment, requiring milling on the manifold or the intake side of the head. After that, you'll have difficulty with misalignment of the valley pan. It certainly can be done this way, but I would consider a head swap as an alternative. A set of Edelbrock's E-Street cylinder heads can be had in a 75cc chamber volume, which is as much as 15cc tighter than a stock open-chamber head. This will make a big difference in compression ratio, while maintaining the factory alignment up top. If you consider the cost of all that milling, and then the rebuild cost on the stock iron heads, and add in the probable need for new shorter pushrods and all the alignment hassle, the head swap makes a lot of sense. The upshot here is that the flow and power potential, even in box-stock form, exceeds what you will get from an old 906 iron head.

FAST FISH

My car is a 1968 Barracuda fastback that came from the factory with the good old 318. The car has always been a fast street driver, even with the lowly 318 engine. I had this car running a best of 13.18 at 101 mph with the factory short-block. I thought that was pretty good, especially when going up

against big-block cars that were shut down by this combo.

Now I am going to get another engine together for this car. The bottom end of my engine is getting tired, and I am slowing down and seeing blow-by. I would like to keep the factory block, and really make some power. Right now, I have a solid-lifter cam in the short-block and trap at around 7,000 rpm. I was leaning toward a 4.00-inch crank combo, taking the block out to

390 cubic inches. There are several pistons on the market to put this set-up into my 318 block, but I was wondering if it was worth it. I liked the high rpm of the stock stroke engine, but do not think the stroker will rev as good. So it comes down to trading rpm for a big gain in torque. My engine has a set of heavily reworked factory J heads now. What head do you recommend if I bump the cubes?

PHIL SHEPPARD



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Phil, you are thinking about this correctly by considering the head selections in conjunction with the increase in cubes. The added 72 cubic inches is a huge jump, and you'd better have the airflow to feed that increase in displacement, especially if you want to use those cubes to their maximum advantage. The bottom line here is how fast do you want to go, and how much money do you want to spend? Put a set of Indy heads on top, cam it right, and that 390 will be an animal. Even with the same J heads, you

will see a significant drop in ET. There are a lot of choices in heads on the market these days, and all you need to do is decide on how far you want to go with the budget in mind, and ultimately, how fast you need to be. Any way you slice it, the stroker is going to be a winner compared to a factory 318 short-block.

LEAD OR PLASTIC?

I want your opinion. I have a 1970 Plymouth Duster that spent some time in a beach city. The salt air can be harsh on a

car body, but this thing is unusual. There is virtually no rust in the car at all, but it does have some surface scale where the paint has worn thin. The real problem areas are where the roof was seamed. It looks like the factory spot welded the roof at the A-pillar and quarter, with a big recessed area in the sheetmetal surface at the join. The trough was then filled with lead to level the seam with the body panels.

The problem I have is the lead seams have blown out. I can see the joints and the lead is clearly lifted, with some lead and rust showing at the edges. I want to fix this before going into the paint shop, but am not sure how to proceed. I have never done any lead work, and honestly, I have never done any welding either. I am good with plastic filler, and can pull and fix a dent. Do I need to go back with the lead filler, or can I just bondo it? Thanks for any advice.

CHRIS MORGAN

Chris, the main thing here is not the filler you use, but cleaning out the joint. If there is rust or corrosion, it will blow out anything you put on top. I would remove all the factory body solder and then assess what you have. If the metal is rusty, you will need to cut and patch as required before proceeding. If you have never used body solder, it will be a learning process. You can try to learn that skill, but since you do not have any welding competence, it may not be practical at your experience level.

If you are going to use a filler, I would recommend cleaning the joint mechanically with abrasives or blasting as the first step. Next, any metal replacement will need to be completed before progressing. I would follow with a chemical rust conversion coating and let that thoroughly dry. Before attempting to fill the seam, I would give it a final mechanical scuff with a clean wire wheel or strip wheel to give a strong mechanical bond. Next, I would use a quality epoxy sealer, followed by the filler. A fiberglass reinforced filler is best to start, and then use the usual plastic for the final skim. Done like this, those seams should hold for decades.

GOT A TECHNICAL QUESTION YOU NEED HELP WITH?

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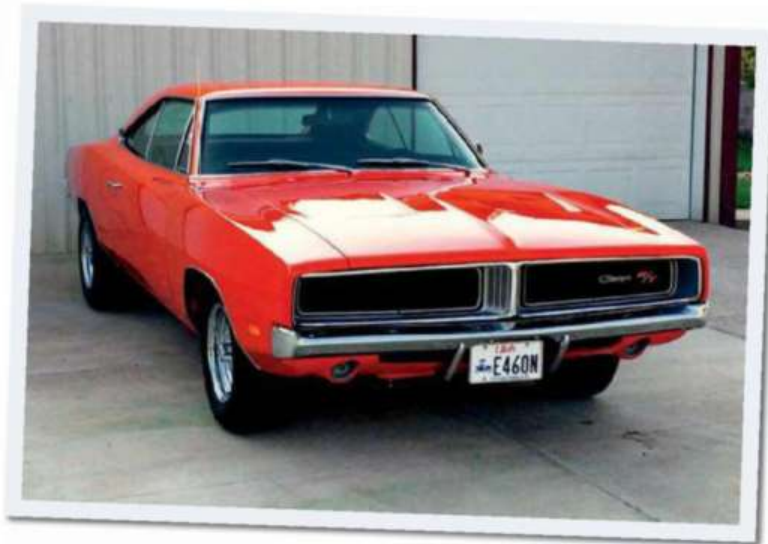
1969 CHARGER R/T KEN OWENS SALT LAKE CITY, UT

Remember back when you could pick up an R/T Charger for a reasonable price and make a good daily driver out of it? Ken Owens does. This 1969 Dodge Charger R/T was his first car purchase in 1979, and became his daily driver until 1990 when it was taken out of service. Owens made plans and collected parts until 1998 when he began a full-scale rotisserie rebuild. He was serious about doing it right, and about doing as much of the work as possible himself, so the Charger stayed in the garage until 2014 as Owens went through it end to end.

Starting under the hood, the 440 was bored .040-over and rebuilt with a 512 stroker kit from 440 Source, a .538-/.534-inch lift roller cam from COMP Cams, aluminum heads with roller rockers from 440 Source, and topped it off with an Edelbrock intake manifold and Thunder series 800-cfm AVS. Behind that the A833 four-speed received a Passon Performance over-drive kit to give the Charger some longer legs with the 3.54 gears

in the Dana 60 rearend. Owen decided to keep the suspension simple, but go with smart upgrades like Hellwig sway bars front and rear, and a steering box, upper control arms, and lower control arm stiffening plates from Firm Feel.

It may not be back to daily driver duty, but now Owen doesn't hesitate to bring the Charger out for an enjoyable drive since everything about it is better than before.



1963 PLYMOUTH SPORT FURY RON NIES SR. BALTIMORE, MD

Ron Nies Sr. saw our post on the Moparts.com message board regarding looking for 11- or 10-second B-Bodies that are also street cars, and he knew he had just what we were looking for. Nies built his '63 Fury as a mild street/strip car that he could cruise and drive all over town, and even drive to the track, race, and drive home. That means pump gas only, and Nies races it just as he drives it—full exhaust system and all.

Readers who have been with us for a while may recall seeing the Fury in its previous incarnation back in the Sept. '09 issue of *Mopar Muscle*. Back then it had run 11.52 at 116 mph with a mild 440. Nowadays it has a mild 493ci stroker under the Max Wedge hood-scoop, and, of course, it now runs 10.70s. That is still in street trim, because Nies doesn't just run around on short trips in town with it. So far he has driven it to the Mopar Carlisle show four times, including last year when the Fury was invited to park under the Moparts tent. If you'd like to see more photos and details on Nies' Fury, check out his website: www.1962to1965mopar.ornocar.com/mmo82008.html.



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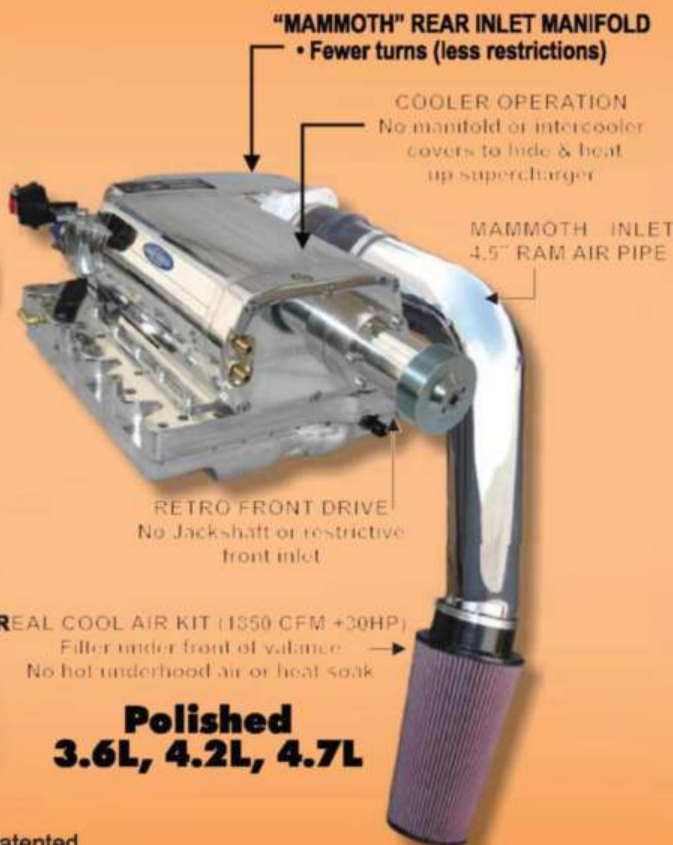
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